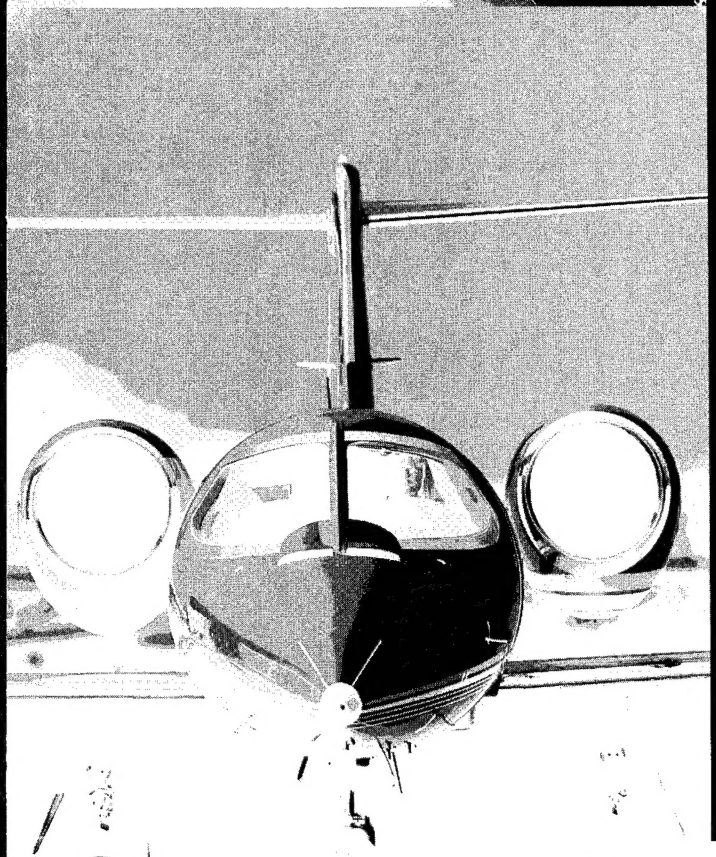

FAA AVIATION FORECASTS

FISCAL YEARS 1996–2007

U.S. Department of Transportation
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This report contains the Fiscal Years 1996-2007 Federal Aviation (FAA) Forecasts of aviation activity at FAA facilities. These include airports with both FAA and contract control towers, air route traffic control centers, and flight service stations. Detailed forecasts were developed for the major users of the National Aviation System: air carriers, air taxi/commuters, general aviation, and military. The forecasts have been prepared to meet the budget and planning needs of the constituent units of the FAA and to provide information which can be used by State and local authorities, the aviation industry, and the general public.

The outlook for the 12-year forecast period is for moderate economic growth, stable real fuel prices, modest inflation, and continued moderate to strong growth in the demand for aviation services. Based on these assumptions, aviation activity is forecast to increase by 19.2 percent at the combined FAA and contract towered airports (439 in 1996) and 26.6 percent at air route traffic control centers. The general aviation active fleet is forecast to increase by almost 5.0 percent during the forecast period while general aviation hours flown grow by almost 10.0 percent. Scheduled domestic revenue passenger miles (RPMs) are forecast to increase 57.3 percent, scheduled international RPMs are forecast to increase by 84.9 percent, and regional/commuter RPMs are forecast to increase by 116.7 percent.

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PREFACE

I am pleased to submit to the aviation community FAA Aviation Forecasts, Fiscal Years 1996-2007. These forecasts are developed annually by Robert L. Bowles and his staff in the Statistics and Forecast Branch for use by the agency in its planning and decision-making processes. In addition, these forecasts are used extensively within the aviation and transportation communities as the industry looks to and prepares for the future.

This year's report contains nine chapters discussing three major areas: (1) the U.S. and world economic environment, assumptions, and predictions which are used to develop the forecasts; (2) historical data and forecasts of future traffic demand and aircraft activity for each major non-military user group--commercial air carriers, regional/commuter airlines, general aviation, and helicopters; and (3) workload measures for FAA and contract towers, centers, and flight service stations. The report concludes with a discussion of our forecast accuracy (which I am pleased to report has been very high in the short-term and reasonable in the long-term) and year-by-year data for our individual forecasts of aviation activity.

Briefly, the forecasts predict moderate expansion of both the U.S. economy and U.S. aviation activity. Internationally, aviation is anticipated to grow more rapidly than in the United States, especially in the Pacific Rim and Latin America.

Based on economic projections which are provided by the Executive Office of the President, Office of Management and Budget (through FY 2001) and by DRI/McGraw-Hill, Evans Econometrics, and the WEFA Group (through 2007), we expect the U.S. economy (as measured by real gross domestic product [GDP]) to grow at an average annual rate of 2.6 percent between 1996 and 2007, with higher increases projected for many major foreign countries and regions. Combining information on economic projections (e.g., GDP growth and oil prices) and industry assumptions (e.g., industry capacity and passenger yield) with analysts' expertise results in an anticipated average annual growth rate (as measured in revenue passenger miles) of 4.2 percent from 1996 to 2007. Annual domestic growth is expected to average 3.8 percent and annual international growth is projected to be 5.3 percent.

In reading and using the information contained in this book, it is important to recognize that forecasting is not an exact science. Its accuracy is dependent principally on underlying economic and political assumptions. While this always introduces some degree of uncertainty, the range is, on average, relatively narrow.

While there is basic agreement between the Administration's short-term economic projections and those of the various econometric forecasting services, future federal policy and

programs may change. Such shifts could result in changes to the short-term economic outlook, altering the short-term demand for aviation services.

If in using this document you see opportunities for improvement, I would appreciate hearing from you. We welcome information and suggestions to improve the usefulness of our forecasts and this document. You are encouraged to send your comments to me at the Federal Aviation Administration, 800 Independence Avenue, S.W., Washington, D.C. 20591.

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CHAPTER I

EXECUTIVE SUMMARY

TWO YEARS OF TRAFFIC GROWTH, AND PROFITS TOO!

The commercial aviation industry recorded its second consecutive year of strong growth in fiscal year 1995. (All stated years for U.S. economic, traffic, and financial data are in fiscal years, while all international economic, traffic, and financial data are in calendar years, unless otherwise noted.) Growth in both domestic and international markets was, in large part, the result of the continuing expansion in the U.S. and world economies. Growth in the domestic sector was also spurred, in part, by the strong growth exhibited by an increasing number of new low-cost entrants.

The U.S. economy has now recorded 18 consecutive quarters of increase, with real growth averaging 3.0 percent since the 1990-91 recession. U.S. gross domestic product (GDP) grew by 3.8 percent in 1994 and by 3.7 percent in 1995.

Globally, economic gains have averaged less than half that of the United States. In fact, worldwide real GDP increased at an annual rate of only 1.3 percent during the 1990s. However, world GDP grew by 2.1 percent in 1994 and it is estimated that world GDP will increase by 2.7 percent in 1995.

With the exception of the former Soviet Union (real GDP down 5.0 percent in 1995), Mexico (down 6.2 percent), and Japan (up 0.8 percent), most countries have experienced moderate to strong economic activity over the past several years. The fastest expanding world economies during the two previous years have been China (GDP averaged over 11.0 percent), the Pacific Basin (GDP averaged over 7.5 percent), and Latin American (excluding Mexico--GDP averaged almost 4.5 percent). Economic recovery also appears to be well underway in both Eastern and Western Europe, where real GDP gains averaged 2.8 and 3.6 percent, respectively, during the past 2 years. Although the Canadian economy is expected to slow somewhat in 1995, real GDP has averaged almost 3.5 percent over the last 2 years.

Strong U.S. and world economic growth activity had a major impact on the demand for aviation services. U.S. commercial air carrier passenger enplanements, which had averaged only 1.1 percent annual growth between 1987 and 1993, were up 13.6 percent over the past two years, the largest consecutive year growth since 1986-87.

Worldwide traffic demand also experienced relatively strong growth over the past 2 years.

The Association of European Airlines reported that its members' traffic grew by 9.1 percent in 1994 and is up 7.7 percent through 9 months of 1995. Twelve Asian and Middle Eastern airlines reported growth of 9.7 percent in 1994 and 9.4 percent for the first 8 months of 1995. The two Canadian flag airlines (Air Canada and Canadian) have also experienced strong traffic gains, up 6.8 percent in 1994 and 7.7 percent for 9 months of 1995. Somewhat slower growth has been recorded by three Latin American airlines (Aeromexico, Transbrazil, and Varig), up 6.1 percent in 1994 but down 1.9 percent through the first 8 months of 1995.

The financial performance of commercial airlines also showed considerable improvement over the last 2 years. Between 1990 and 1993, U.S. commercial airlines' cumulative operating losses totaled nearly $5.0 billion while its net losses totaled almost $11.4 billion. However, over the past 2 years, the industry reported operating profits totaling almost $8.0 billion and net profits totaling over $2.4 billion.

Based on data compiled by the International Civil Aviation Organization (ICAO), world air carriers (including U.S. airlines) reported cumulative operating losses of $3.8 billion and net losses of $15.9 billion during the 3-year period between 1990 and 1992. However, over the next 2 years, world airlines reported operating profits totaling $10.3 billion. While there was some improvement in the carriers' net position in 1994 (net profits of $1.0 billion), the carriers' reported a net loss of $3.4 billion over the 2-year period. Although financial data is not available for 1995; interim carrier financial results remain largely positive. In addition, the International Air Transport Association (IATA) has publicly stated that its members will record $7.5 billion in net profits in 1995.

Although the U.S. commercial airline industry has reported significant improvements in both traffic and profits over the past 2 years, there continues to be considerable disparity among the individual carriers. At the one extreme is Southwest Airlines. During the 1990s, Southwest's traffic has increased by almost 150 percent (from 9.2 billion RPMs in 1989 to 22.8 billion in 1995) and its cumulative operating profits have totaled $874 million. Even more impressive is the financial performance of Federal Express and United Parcel Service during the 1990s. Not only have the two carriers reported an operating profit in each of the 6 years, but their cumulative operating profits have totaled almost $3.0 billion.

At the other extreme are a number of carriers, both large and small. Over the past 2 years, the 11 majors (carriers with annual operating revenues exceeding $1 billion) reported cumulative operating profits of $2.3 and $4.8 billion. Two of the majors reported cumulative losses totaling $710 million in 1995. However, this is an improvement over 1994 when four majors reported cumulative losses totaling $827.9 million Nonetheless, some financial analysts continue to predict the imminent bankruptcy and/or merger of one or more of the majors.

While the smaller nationals (operating revenues between $100 million and $1 billion) and regionals (operating revenues less than $100 million) were able to outperform the larger majors in terms of traffic generation in 1995 (enplanements up 18.0 percent compared to only 3.4 percent for the majors), smaller size was not, in itself, a guarantee of profitability. The combined operating profit of the 49 reporting smaller carriers totaled only $451.1 million in 1995, with 19 carriers reporting losses ranging from just over $20 thousand to $46.0 million.

Although restructuring and/or downsizing continued to be a major priority among the larger carriers during the past two years, the terms "consolidation" and "merger" had reappeared in the vocabulary of several carriers vocabularies by the end of 1995. Much of this

dialogue centered on merger/alliance discussions between USAir and United Airlines and/or American Airlines. Although these discussions have since broken off, rumors continue with regard to lists of potential retaliatory merger/alliance partners should the merger talks begin again and progress beyond the discussion phase.

The regional/commuter airline industry continues to be the fastest growing sector of the commercial aviation industry during the 1990s, with passenger enplanements increasing by almost 75.0 percent (compared to only 20.3 percent for the larger air carriers) during this 6-year period. However, 1995 has proved to be a very disappointing year for this segment of the industry, with enplanements growing by less than 1.0 percent. This compares to growth of almost 14.0 percent in 1994.

The activity measures for general aviation were generally mixed again this year. The big difference is that in 1995 the industry is riding a wave or "new spirit" of optimism that was created by the passage of the General Aviation Revitalization Act in 1994. As such, the positive numbers probably outweigh the negative ones, although the difference may be largely psychological.

The FAA is well aware that one or two years of strong growth does not necessarily indicate a continuing trend. Nevertheless, there are a number of signs that indicate that the current rebound in traffic may well continue for several additional years, albeit at somewhat reduced rates.

The U.S. economy reportedly expanded by 4.2 percent during the fourth quarter (July to September) of 1995. In addition, the Federal Reserve Board lowered short-term interest rates by a quarter of a point in late December (to 5.5 percent), the first cut in 5 months. This move is intended to stimulate economic growth in 1996. However, based on past trends, the impact of the cut may not be felt until mid-year or later.

There are also a number of other positive economic trends. Total durable goods orders were up 2.9 percent in September, reaching their highest level on record. This advance was broad based, although transportation orders--up 10.6 percent--led the pack. Nondefence capital goods orders, a barometer of business investment, were up 11.9 percent in September.

On the consumer front, real personal consumption expenditures rose 2.9 percent at a seasonally adjusted annual rate in the July-to-September quarter. Retail sales were up a modest 0.3 percent in September, mainly due to sluggish auto sales. Although consumer confidence remains steady, many consumers have expressed concern about the direction of employment growth, interest rates, and output.

The trade deficit in goods and services improved markedly in August, shrinking to $8.8 billion, its lowest level since last December. Exports rose by $2.3 billion, increasing to virtually all regions of the world. Imports remained basically unchanged, although goods imported from Canada, Mexico, and most of the Pacific Rim countries reported increases.

Despite the many positive statistics and/or trends, there are a number of uncertainties that could limit the growth of the U.S. economy and ultimately, the demand for aviation services. Corporate America continues to downsize and/or automate its operations, eliminating many middle management positions and reducing the base of both current and future business travelers. In addition, continuing technological improvements in communications, including advances in teleconferencing and facsimile mail, also have the potential to impact future business travel.

There are also a number of trends that have the potential to impact discretionary or pleasure

travel. The recent rapid rises in consumer installment credit, which has reached an all-time high, could result in a slowdown in consumer spending, including travel expenditures, in 1996 and beyond. Another concern involves stagnating middle-class incomes and the growing inequality in income distribution. The erosion of middle-class purchasing power has the potential to significantly impede the growth of future personal air travel.

REVIEW OF 1995

COMMERCIAL AVIATION

In 1995, the large U.S. air carriers increased their system capacity (available seat miles) by only 3.6 percent, while passenger demand (revenue passenger miles) increased by 5.2 percent. As a result, the system-wide load factor (both domestic and international service) increased from 65.7 percent in 1994 to 66.8 percent in 1995--an all-time high. The previous highest load factor was recorded in 1994.

Domestic capacity and traffic were up 4.1 and 5.7 percent, respectively, in 1995. However, much of this increase was the result of considerably stronger growth among the smaller nationals and regionals. In 1995, the 10 majors' traffic grew by 4.4 percent while the national/regionals' traffic increased 22.0 percent. During this same period, the majors' capacity increased by only 2.4 percent compared to a 25.8 percent increase by the nationals/regionals. As a result of the significantly slower grow in capacity during 1995, domestic carriers established an all-time high load factor of 65.2 percent, eclipsing the previous high of 64.2 percent recorded in 1994.

U.S. carrier international traffic grew by only 4.0 percent in 1995, the relatively slower growth due to flat traffic on the trans-Atlantic routes. This poor showing on the Atlantic is, in large part, the result of an increase in the number of alliances between U.S. and European airlines. Carriers generally enter into alliances to reduce overlapping services. However, the particular nature of these alliances appears to have led to a shift away from trans-Atlantic flying by U.S. airlines. In fact, U.S. carriers appear to be more willing to reduce and/or redeploy their own capacity, allowing their European partners to continue to fly the long-haul trans-Atlantic segments.

That this actually happened is confirmed by the traffic statistics. In 1995 U.S. carriers reported a significant decline in capacity flown on the Atlantic routes--a 11.0 percent drop in departures and a 3.6 percent decline in seat miles. In addition, U.S. flag carriers reported traffic increases of only 0.3 percent on these routes. On the other hand, the Association of European Airlines reported that its members' North Atlantic traffic and capacity increased by 8.6 and 1.6 percent, respectively. Based on the combined results, the total trans-Atlantic market grew by 4.6 percent in 1995. As such, the U.S. flag carriers' poor traffic showing resulted in a share loss of two percentage points.

U.S. air carrier traffic to the other two world travel areas increased by 7.3 percent in 1995, this despite the continued weakness of the Japanese and Mexican economies. Traffic on the Pacific routes, which had declined 2.4 percent during the two previous years, was up 6.0 percent in 1995. Latin American traffic increased 10.4 percent in 1995.

Strong traffic growth in both 1994 and 1995, combined with the industry's restructuring/cost cutting programs, have resulted in substantial improvements to the industry's balance sheet--a $2.6 billion operating profit in 1994 and a $5.8 billion operating profit in 1995. However,

similar or higher profits will be required over the next several years if the industry is to be able to finance the replacement and new aircraft needed to accommodate future growth and meet the federally mandated noise regulations.

New commercial aircraft orders totaled 490 (up 47.6 percent) in 1995, much of the increase due to the industry's vastly improved financial position. On the other hand, deliveries of new aircraft totaled only 449 in 1995, a decline of 13.2 percent. The decline in new aircraft deliveries reflects, to a large extent, the current restructuring/downsizing now occurring among the larger U.S. commercial airlines. However, part of the decline can also be attributed to the labor unrest at Boeing during much of 1995.

Although the demand for narrowbody aircraft continues to outpace the demand for widebody aircraft--69.0 percent of total orders and 63.9 percent of total deliveries in 1995--this segment of the aircraft market has been heavily impacted by the restructuring. Only 289 narrowbody aircraft were delivered in 1995, 16.3 percent fewer than delivered in 1994 (344) and 52.9 percent fewer than delivered in 1992 (614). However, the market for narrowbody aircraft, in particular, and all aircraft, in general, appears to have turned around in 1995. There were 338 orders for narrowbody aircraft in 1995, a 56.5 percent increase over depressed 1994 levels. There were also 152 orders for widebody aircraft in 1995, an increase of 31.0 percent. However, it should be noted that the number of aircraft ordered during 1995 is still well below the levels achieved during the early 1990s.

The regional/commuter airline industry was plagued by a number of events during the past year, bringing the industry's seemingly endless years of rapid expansion to a halt. These events included three highly publicized accidents, followed by the subsequent temporary grounding of the ATR aircraft. In addition, the downsizing and/or cutback in hub operations by several larger air carriers at Nashville (American), Raleigh/Durham (American), Dallas-Ft. Worth (Delta), and Denver (Continental) resulted in significant traffic losses by the smaller regional/commuter partners. The entry of Shuttle by United on the West Coast, and its subsequent competitive battle with Southwest Airlines, also resulted in significant traffic losses by the regionals/ commuters who operated in that market. As a result, regional/commuter airline passenger enplanements (53.7 million) were up only 0.9 percent in 1995. Also in 1995, regional/ commuter airlines recorded 11.4 billion revenue passenger miles, an increase of only 2.7 percent.

GENERAL AVIATION

As stated earlier, the activity measures for general aviation were generally mixed in 1995. On a positive note, general aviation shipments were up 12.9 percent in 1995, totaling 980 units. More important, however, is the fact that the increase occurred across all aircraft types, including piston powered aircraft. Shipments in 1995 consisted of 505 piston aircraft (up 14.3 percent), 234 turboprops (up 15.3 percent), and 241 turbojets (up 8.1 percent).

Billings for general aviation aircraft were up for the third consecutive year in 1995. Because of the greater average dollar value of the aircraft being shipped, billings increased 30.5 percent in 1995 to just under $3.0 billion.

There were also a number of positive trends related to business and corporate flying. The number of pilots holding private certificates (284,200) increased 0.7 percent in 1995, reversing a 3-year decline. Additionally, the number of general aviation aircraft handled at FAA en route centers increased for a fourth consecutive year. These statistics indicate that the turnaround in business corporate flying may finally be at hand.

Unfortunately, there also continues to be a number of negative statistics for the general aviation industry. Based on the 1994 General Aviation Air Taxi Activity Survey, the active general aviation fleet declined for a third consecutive year while the number of hours flown declined for a fifth consecutive year. Based on the survey, the active general aviation fleet totaled 170,600 on January 1, 1995, a decline of 3.1 percent. These aircraft flew an estimated 23.9 million hours in CY 1994, a decline of 2.0 percent.

Despite the positive statistics with regard to private pilots, other pilot classifications did not fare as well. The total number of active pilots (654,000) declined 1.7 percent in CY 1995, while the number of instrument rated pilots (302,300) were down 1.0 percent. The number of student and commercial pilots also continued to decline, down 7.0 and 3.0 percent respectively. Perhaps more important, the number of student pilots (96,300) dropped below 100,000 for the first time since 1992.

FAA WORKLOAD

Operations at FAA air traffic control towers totaled 58.0 million in 1995, a decline of 4.0 percent from 1994 activity levels. However, the decline was due to the conversion of 50 airports to contract tower status during 1995. The number of FAA towered airports declined from 402 in 1994 to 352 as of September 30, 1995. The number of contract towers totaled 94 as of September 30, 1995.

The combined activity at both FAA and contact towered airports totaled 62.5 million in 1995, an increase of 0.3 percent over 1994 combined activity levels. The relatively slow growth in the combined tower counts was due largely to a 0.8 percent decline in general aviation activity. Commercial activity (the sum of air carrier and commuter/air taxi) was up 2.1 percent at the combined towers but was up only 0.9 percent at FAA towered airports. Military activity at the combined towers remained constant at 1994 levels (2.6 million).

Instrument operations at FAA towered airports (47.2 million) were up only 0.4 percent in 1995. However, these activity counts were also distorted by the conversion of FAA towers to contract tower status, although not to the same extent as were total operations at FAA towered airports. Instrument operations at the combined FAA and contract towers (47.0 million) were up 0.3 percent in 1995.

The number of Instrument Flight Rule (IFR) aircraft handled at FAA's air route traffic control centers (40.2 million) increased 3.3 percent in 1995, largely on the strength of a 5.3 percent increase in the commercial sector. The number of general aviation aircraft handled at the en route centers were up 1.3 percent in 1995, while the number of military aircraft handled declined 4.3 percent.

SUMMARY

In summary, the impact of strong U.S. economic growth, in combination with the continued success enjoyed by the new entrants and spin-off low-cost carriers in short-haul markets, resulted in relatively strong demand for commercial air services during 1995. Industry restructuring, in combination with the implementation of numerous cost-cutting measures, resulted in significant improvements in the financial viability of the U.S. commercial aviation industry.

The results for the general aviation sector, although generally mixed, appear to reflect growing optimism within the general aviation community. The passage of the General Aviation Revitalization Act in 1994 appears to have given the industry the needed lift to move

forward in revitalizing the market for general aviation products and services

ECONOMIC FORECASTS

Gauging the timing, strength, and duration of the U.S. and world economic recovery continues to be a source of consternation for many economists and economic forecasting services. This uncertainty makes it extremely difficult to predict the demand for aviation services with any degree of confidence.

While there is widespread agreement among forecasters as to the general direction of the U.S. economy, there is some basic disagreement among the forecasting services used by the FAA (DRI/McGraw-Hill, Evans Economics, and The WEFA Group) and the economic projections supplied by the Executive Office of the President, Office of Management and Budget (OMB). In general, OMB is somewhat more optimistic than is the consensus forecast.

The economic forecasts used to develop the FAA aviation forecasts anticipate moderate to strong growth throughout the forecast period. In the immediate short-term, U.S. economic activity is projected to increase by 2.7 percent in 1996 and then expand by 2.8 percent in both 1997 and 1998. Growth is expected to moderate somewhat over the longer-term, averaging 2.6 percent annually over the 12-year forecast period.

Worldwide economic growth is expected to exceed that of the United States, averaging 3.6 percent over the 12-year forecast period. Economic growth is forecast to be greatest in the Far East/Pacific Rim countries (5.0 percent annually) and Latin America (4.9 percent annually). Economic growth in Europe/Africa/ Middle East countries is expected to average 3.1 percent over the forecast period.

Despite projections that show moderate to strong economic growth in Japan (up 2.6 percent in 1996), Mexico (up 3.8 percent), Eastern Europe (up 3.9 percent), and the former Soviet Union (up 5.7 percent), short-term economic and political uncertainties continue to cloud the economic outlook for these countries and could slow future aviation demand in these travel areas.

U.S. inflation (as measured by the consumer price index) is projected to remain in the moderate range throughout the 12-year forecast period, increasing at an average annual rate of 3.0 percent. Oil prices (as measured by the oil and gas deflator) are expected to increase by 4.8 percent in 1996, then slow to the 2.8 percent range over the next 5 years. Fuel prices are projected to increase at an average annual rate of 3.6 percent over the 12-year forecast period. In real dollars, fuel prices are forecast to increase by only 0.6 percent annually. The forecast assumes no major disruptions in the price or availability of oil.

The projected growth of aviation demand discussed in subsequent chapters of this document is consistent with these national short- and long-term economic growth forecasts. The table on the following page summarizes the key economic assumptions used in developing the aviation demand forecasts. The economic forecasts are discussed in Chapter II and are presented in tabular form in Chapter IX, Tables 1 through 5.

It should be noted, however, that in any given year there is likely to be some perturbation around the long-term trend. None of the current economic models is sufficiently precise to predict interim business cycles. In addition, unanticipated developments, such as the 1990Iraqi invasion of Kuwait and subsequent Gulf War and run-up in oil prices, cannot be predicted at all.

TABLE I-1

FAA FORECAST ECONOMIC ASSUMPTIONS

FISCAL YEARS 1996-2007

ECONOMIC VARIABLE	HISTORICAL			FORECAST			PERCENT AVERAGE ANNUAL GROWTH				
	1990	1994	1995	1996	1997	2007	90-95	94-95	95-96	96-97	95-07
UNITED STATES											
Gross Domestic Product (In Billions of 1987$)	4,894.7	5,290.1	5,484.1	5,633.2	5,792.4	7,475.8	2.3	3.7	2.7	2.8	2.6
Consumer Price Index (1982-84 = 100)	129.0	144.7	148.8	152.7	157.3	211.1	2.9	2.8	2.6	3.0	3.0
Oil & Gas Deflator (1987 = 100)	121.8	121.5	126.5	132.6	136.0	193.0	0.8	4.1	4.8	2.6	3.6
INTERNATIONAL											
Gross Domestic Product (In Billions of U.S. 1990$)											
World	22,787.9	23,637.6	24,280.0	25,088.0	26,003.6	37,137.3	1.3	2.7	3.3	3.6	3.6
Atlantic*	8,486.3	8,944.2	9,215.4	9,496.9	9,800.7	13,335.4	1.7	3.0	3.1	3.2	3.1
Latin America/Mexico	1,056.6	1,214.8	1,233.3	1,282.1	1,347.6	2,188.9	3.1	1.5	4.0	5.1	4.9
Pacific**	4,816.3	5,527.6	5,731.1	5,996.3	6,291.1	10,319.8	3.5	3.7	4.6	4.9	5.0
Exchange Rates (U.S.$/Local Currency)											
United Kingdom	1.818	1.530	1.573	1.492	1.449	1.458	(2.9)	2.8	(5.1)	(2.9)	(0.6)
Germany	0.669	0.616	0.705	0.647	0.603	0.589	1.1	14.4	(8.2)	(6.8)	(1.5)
Japan	6.924	9.779	10.685	9.613	9.050	9.813	9.1	9.3	(10.0)	(5.9)	(0.7)

Source: United States: FY 1996-2001; Executive Office of the President, Office of Management and Budget
FY 2002-2007; Consensus growth rate of DRI/McGraw-Hill, Evans Economics, Inc., and The WEFA Group
International: CY-1996-2007, The WEFA Group

* Sum of GDP for Europe, Africa, and Middle East

** Sum of GDP for Japan, Pacific Basin, China, Other Asia, Australia, and New Zealand

AVIATION ACTIVITY FORECASTS

Domestic air carrier revenue passenger miles are forecast to increase at an annual rate of 3.8 percent between 1996 and 2007. The forecast assumes a slowing of demand in 1996 (up 3.3 percent), which is due, in large part, to the expected strengthening in passenger yields. Nominal yields are projected to increase by 2.0 percent in 1996, the first increase since 1993.

However, significantly stronger growth is forecast over the next two years, with traffic growth expected to average 5.2 percent in both 1997 and 1998. The strong growth in these 2 years is based on a robust economy, continued competition (both service and price), and continued strong traffic growth in short-haul markets. Domestic enplanements are forecast to increase by 3.2 percent in 1996, 5.6 percent in 1997, and 5.5 percent in 1998, averaging 3.7 percent over the 12-year forecast.

The forecasts assume that domestic passenger yields will increase at an annual rate of 1.7 percent over the 12-year forecast period. However, real or nominal passenger yields are expected to continue to decline throughout the forecast period, declining by 1.2 percent annually. The expected decline in real yields is the result of strong competitive forces (both domestically and internationally) in combination with the carriers ongoing restructuring and cost-cutting efforts. The former exerts downward pressure on fare levels while the latter allows the carriers to remain competitive without weakening the bottom line. The decline in yields is expected to be greatest in 1997 and 1998 (domestic real yields down 2.6 percent annually), due largely to increased competition in short-haul markets.

Air carrier aircraft operations are forecast to increase at an annual rate of 2.7 percent during the 12-year forecast period. Again, stronger growth is forecast for the first 3 years of the forecast period (averaging 3.5 percent). This is due to the expected stronger growth in short-haul markets relative to long-haul markets during this period. For the period 1996 to 1998, this stronger growth in short-haul markets also results in continued high load factors.

International air carrier revenue passenger miles and passenger enplanements are both forecast to increase at annual rates of 5.3 percent over the 12-year forecast period. This stronger growth in international travel relative to that in domestic markets is, to a large extent, being driven by the strong demand projected in Latin American (6.3 percent annually in RPMs) and trans-Pacific (6.2 percent) markets. By contrast, the trans-Atlantic markets are projected to grow by only 3.9 percent.

The relatively slow growth in the trans-Atlantic markets results from the assumption that U.S. carriers will continue to lose market share to their European alliance partners in 1996. U.S. carrier traffic is projected to grow by only 2.5 percent in 1996, half the projected growth for the total trans-Atlantic market. Thereafter, it is expected that the U.S. flag market share in the trans-Atlantic markets will stabilize, and that U.S. carrier traffic will grow by 4.5 percent in both 1997 and 1998.

The air carrier forecasts assume that the industry will benefit from the moderate to strong economic growth taking place both within the United States and worldwide. In addition, it is assumed that the industry will continue its restructuring and cost-cutting efforts, thereby improving the industry's overall financial performance. The retirement of large numbers of stage-2 aircraft and their replacement by more fuel efficient stage-3 aircraft is expected to result in increased industry productivity. The productivity improvements are also expected to strengthen the industry's overall financial performance. The

TABLE I-2

AVIATION ACTIVITY FORECASTS

FISCAL YEARS 1996-2007

AVIATION ACTIVITY	HISTORICAL			FORECAST			PERCENT AVERAGE ANNUAL GROWTH				
	1990	1994	1995	1996	1997	2007	90-95	94-95	95-96	96-97	95-07
AIR CARRIER											
Enplanements (Millions)											
Domestic	424.1	472.0	495.9	511.8	540.4	766.8	3.2	5.1	3.2	5.6	3.7
International	41.3	46.3	48.4	50.9	54.0	89.9	3.2	4.5	5.2	6.1	5.3
Atlantic	16.1	16.5	16.2	16.6	17.3	25.3	0.1	(1.8)	2.5	4.2	3.8
Latin America	13.0	16.5	17.9	19.1	20.4	35.7	6.6	8.5	6.7	6.8	5.9
Pacific	12.2	13.4	14.3	15.2	16.3	28.9	3.2	6.7	6.3	7.2	6.0
System	465.4	518.3	544.3	562.7	594.4	856.7	3.2	5.0	3.4	5.6	3.9
RPMs (Billions)											
Domestic	339.2	371.3	392.4	405.3	426.4	617.3	3.0	5.7	3.3	5.2	3.8
International	115.1	138.6	144.2	150.9	160.2	266.6	4.6	4.0	4.6	6.2	5.3
Atlantic	53.7	64.2	64.4	66.0	68.9	102.3	3.7	0.3	2.5	4.4	3.9
Latin America	16.0	22.0	24.3	26.0	28.0	50.7	8.7	10.5	7.0	7.7	6.3
Pacific	45.4	52.4	55.5	58.9	63.3	113.6	4.1	5.9	6.1	7.5	6.2
System	454.3	509.9	536.6	556.2	586.6	883.9	3.4	5.2	3.7	5.5	4.2
REGIONAL/COMMUTERS											
Enplanements (Millions)	37.2	53.2	53.7	56.1	59.7	96.9	7.6	0.9	4.5	6.4	5.0
RPMs (Billions)	6.7	11.1	11.4	12.2	13.2	24.7	11.2	2.7	7.0	8.2	6.7
FLEET											
Air Carrier	4,007	4,426	4,582	4,720	4,784	6,564	2.7	3.5	3.0	1.4	3.0
Regionals/Commuters	1,819	2,179	2,192	2,232	2,302	2,980	3.8	0.6	1.8	3.1	2.6
General Aviation (000)	198.0	176.0	170.6	167.3	165.4	178.9	(2.9)	(3.1)	(1.9)	(1.1)	0.4
HOURS FLOWN											
Air Carrier	10.5	11.5	11.9	12.4	12.6	18.2	2.5	3.5	4.2	1.6	3.6
Regionals/Commuters	2.7	3.0	2.9	3.0	3.0	3.6	1.4	(3.3)	3.4	0.0	1.8
General Aviation	30.8	23.9	23.3	23.2	23.4	25.6	(5.4)	(2.5)	(0.4)	0.9	0.8

Source: 1985-95; DOT-BTS, FAA Data
1996-2007; FAA Forecasts

forecast further assumes that U.S. air carriers will convert to an all stage-3 fleet (including retrofitted stage-2 aircraft) by the year 2000. Present aircraft orders, options, and retrofit prospects support this assumption.

In 1995, the regional/commuter airlines enplaned 53.7 million passengers, 10.0 percent of all passenger traffic in scheduled domestic air service. By the year 2007, these carriers are expected to carry 96.9 million passengers (5.4 percent annual growth) and to account for 11.6 percent of all domestic passenger enplanements.

Regional/commuter airlines revenue passenger miles are expected to increase by 6.7 percent annually over the forecast period, growing from 11.4 billion in 1995 to 24.7 billion in 2007. The higher growth for passenger miles relative to enplanements is the result of large increases in the average passenger trip length for regional/commuter passengers. This is due in large part to the continued integration of large numbers of high-speed turpoprops and regional jets into the regional/commuter fleets. These aircraft, with ranges of up to 1,000 miles, are expected to open up new opportunities for growth in nontraditional markets. While regional/commuter carriers are also expected to continue to benefit from further route rationalization from the large commercial carriers, this will not be as significant a driver of growth for the regional industry as in the past

The move to greater use of small jet aircraft and larger, propeller-driven aircraft, results in the average seating capacity of the regional fleet increasing from 23.7 seats in 1995 to 35.3 seats in 2007.

The forecast also assumes increased business use of general aviation aircraft. This is reflected in the changing character of the general aviation fleet. The more expensive and sophisticated turbine-powered part of the fixed wing fleet is expected to grow much faster than the piston aircraft portion. In CY 1995, there were an estimated 8,280 turbine-powered aircraft in the fixed wing general aviation fleet--4.9 percent of the total fixed wing fleet. By CY 2007, it is projected that there will be 9,900 turbine-powered aircraft--5.5 percent of the total fixed wing fleet. Similarly, there were 3,009 turbine-powered rotorcraft in CY 1995--68.5 percent of the total helicopter fleet. Although the turbine-powered rotorcraft fleet is projected to remain constant through CY 2007, its share of the total rotorcraft fleet is projected to increase to 73.2 percent.

The general aviation piston fleet is projected to decline over the next several years (from 138,909 in CY 1995 to 132,700 in CY 1997), then increase by almost 1,000 aircraft annually over the remaining 10 years of forecast period. The number of single engine piston aircraft is expected to decline from 123,332 in CY 1995 to 117,800 in CY 1997, then increase to 126,400 by CY 2007. The multi-engine piston aircraft fleet is projected to total 15,800 in CY 2007, up from 15,509 in CY 1995.

The FAA aviation traffic and activity forecasts are summarized in the table on page I-10.

FAA WORKLOAD FORECASTS

The FAA forecasting process is a continuous one that requires the FAA's Statistics and Forecast Branch to interact with various FAA offices and services, other Government agencies, and aviation industry groups, including discussions with many commercial airlines and aircraft/engine manufacturers. In addition, the process uses a number of different economic and aviation data bases, the outputs of several econometric models and equations, and several other analytical techniques. The FAA workload measures are used by the agency for manpower staffing and facility planning.

The number of FAA towered airports declined from 402 in 1994 to 352 in 1955 (as of September 30) and is expected to total only 325 by September 30, 1996. During this same period, the number of FAA contract towers grew from 32 in 1994 to 94 in 1995 (as of September 30) and is expected to total 118 on September 30, 1996. This removal of 77 towers from FAA air traffic counts between 1994 and 1996 makes comparisons to previous year's activity counts difficult, if not impossible. To overcome these reporting inconsistencies, the FAA has developed separate activity forecasts for both FAA and contract towered airports. Activity at FAA Air Route Traffic Control Centers and Service Stations are not affected by the tower conversions.

Summary forecasts of aircraft activity at combined FAA and contract tower facilities can be found in Table I-3 on page 13. Summary forecasts of activity at FAA facilities only, including en route and flight service stations, can be found in Table I-4 on page 14 More detailed forecasts of aircraft activity at both FAA and contract facilities can be found in Tables 27 through 46 in Chapter IX.

Activity at the combined FAA and contract towered airports is projected to grow from 62.5 million operations in 1995 to 74.5 million in 2007, an increase of 1.5 percent annually. The majority of this growth is expected to be the result of increased commercial aircraft activity, which is forecast to increase from 23.9 million operations in 1995 to 32.1 million in 2007, an increase of 2.5 percent annually. Much of the growth in commercial activity is forecast to occur during the first 3 years of the forecast period (up 3.0 percent annually), the result of increased competition and activity by low-cost airlines in markets of up to 500-600 miles in distance.

General aviation activity is projected to increase from 36.0 to 39.8 million over the 12-year forecast period, an increase of 0.8 percent annually. Military activity is expected to remain constant at its 1995 activity level (2.6 million) throughout the forecast period.

The increased use of avionics by regional/ commuter airlines and general aviation aircraft, combined with the implementation of additional airport radar service areas, is expected to result in instrument operations increasing at a somewhat faster rate than total tower operations. Combined instrument operations counts at FAA and contract towered airports increase from 47.3 million in 1995 to 58.2 million in 2007, an annual increase of 1.7 percent.

The workload at the air route traffic control centers is forecast to increase at an average annual rate of 2.0 percent during the 12-year forecast period. In 2007, FAA en route centers are expected to handle 50.9 million IFR aircraft, up from 40.2 million in 1995.

The higher growth rate at en route centers, relative to activity at towered airports, reflects the fact that commercial activity accounts for a significantly larger percentage of center activity (69.7 versus 38.2 percent at towered airports in 1995). Therefore, the projected increases in commercial aircraft activity, especially during the first 3 years of the forecast period (3.1 percent annually), will have a much greater impact on total center traffic during the early years of the forecast.

For each of the three workload measures, commercial aircraft activity is forecast to increase at a significantly faster rate than is noncommercial aircraft activity (the sum of general aviation and military). Forecast growth rates for commercial and noncommercial activity during the 12-year period are as follows: 2.5 versus 0.8 percent at combined FAA and contract towered airports; 2.6 versus 0.8 percent for instrument operations at combined FAA and contract towered airports;and 2.4 versus 1.0 percent for IFR aircraft handled at FAA air route traffic control centers.

TABLE I-3

WORKLOAD FORECASTS--COMBINED FAA AND CONTRACT TOWERS

FISCAL YEARS 1996-2007

WORKLOAD MEASURES (In Millions)	HISTORICAL			FORECAST			PERCENT AVERAGE ANNUAL GROWTH				
	1990	1994	1995	1996	1997	2007	90-95	94-95	95-96	96-97	95-07
Number of Towers											
FAA Towers	403	402	352	325	325	325					
FAA Contract Towers	24	32	94	118	118	118					
TOTAL	427	434	446	443	443	443					
Aircraft Operations											
Air Carrier	12.9	13.2	13.7	14.0	14.6	18.6	1.2	3.8	2.2	4.3	2.6
Commuter/Air Taxi	8.9	10.2	10.2	10.4	10.7	13.5	2.8	0.0	2.0	2.9	2.4
General Aviation	40.2	36.3	36.0	36.2	36.6	39.8	(2.2)	(0.8)	0.6	1.1	0.8
Military	2.9	2.6	2.6	2.6	2.6	2.6	(2.2)	0.0	0.0	0.0	0.0
TOTAL	64.9	62.3	62.5	63.2	64.5	74.5	(0.8)	0.3	1.1	2.1	1.5
Instrument Operations											
Air Carrier	14.0	14.3	14.7	15.1	15.7	20.0	1.0	2.8	2.7	4.0	2.6
Commuter/Air Taxi	9.5	10.9	10.9	11.1	11.3	14.4	2.8	0.0	1.8	1.8	2.3
General Aviation	19.2	18.1	18.1	18.3	18.5	20.2	(1.2)	0.0	1.1	1.1	0.9
Military	4.4	3.7	3.6	3.6	3.6	3.6	(3.9)	(2.7)	0.0	0.0	0.0
TOTAL	47.1	47.0	47.3	48.1	49.1	58.2	0.1	0.6	1.7	2.1	1.7

Source: FY 1990-2007, FAA Data and Forecasts

TABLE I-4

WORKLOAD FORECASTS--FAA FACILITIES

FISCAL YEARS 1996-2007

WORKLOAD MEASURES (In Millions)	HISTORICAL			FORECAST			PERCENT AVERAGE ANNUAL GROWTH				
	1990	1994	1995	1996	1997	2007	90-95	94-95	95-96	96-97	95-07
Aircraft Operations											
Air Carrier	12.9	13.2	13.6	13.9	14.5	18.5	1.1	3.0	2.2	4.3	2.6
Commuter/Air Taxi	8.8	10.0	9.8	9.6	9.7	12.4	2.2	(2.0)	(2.0)	1.0	2.0
General Aviation	39.0	34.7	32.3	30.4	29.9	32.5	(3.7)	(6.9)	(5.9)	(1.6)	0.1
Military	2.8	2.5	2.3	2.2	2.1	2.1	(3.9)	(8.0)	(4.3)	(4.5)	(0.8)
TOTAL	63.5	60.4	58.0	56.1	56.2	65.5	(1.8)	(4.0)	(3.3)	0.2	1.0
Instrument Operations											
Air Carrier	14.0	14.3	14.7	15.0	15.6	19.9	1.0	2.8	2.0	4.0	2.6
Commuter/Air Taxi	9.4	10.8	10.8	10.8	11.0	14.0	2.8	0.0	0.0	1.9	2.2
General Aviation	19.1	18.0	18.0	18.2	18.2	19.9	(1.2)	0.0	1.1	0.0	0.8
Military	4.4	3.7	3.5	3.5	3.5	3.5	(4.5)	(5.4)	0.0	0.0	0.0
TOTAL	46.9	46.8	47.0	47.5	48.3	57.3	0.0	0.4	1.1	1.7	1.7
IFR Aircraft Handled											
Air Carrier	18.5	20.0	21.0	21.6	22.4	27.9	2.6	5.0	2.9	3.7	2.4
Commuter/Air Taxi	5.6	6.6	7.0	7.1	7.3	9.2	4.6	6.1	1.4	2.8	2.3
General Aviation	7.9	7.7	7.8	8.0	8.1	9.4	(0.3)	1.3	2.6	1.3	1.6
Military	5.4	4.6	4.4	4.4	4.4	4.4	(4.0)	(4.3)	0.0	0.0	0.0
TOTAL	37.4	38.9	40.2	41.1	42.2	50.9	1.5	3.3	2.2	2.7	2.0
Flight Services											
Pilot Briefs	11.8	9.6	8.9	8.7	8.5	8.0	(5.5)	(7.3)	(2.2)	(2.3)	(0.9)
Flight Plans Originated	7.3	6.3	6.3	6.2	6.1	5.7	(2.9)	0.0	(1.6)	(1.6)	(0.8)
Aircraft Contacted	6.3	4.7	4.2	4.0	3.9	3.7	(7.8)	(10.6)	(4.8)	(2.5)	(1.1)
TOTAL	44.5	36.5	34.6	33.8	33.1	31.1	(4.9)	(5.2)	(2.3)	(2.1)	(0.9)
DUATS	3.0	16.0	11.4	12.2	13.0	18.8	30.6	(28.8)	7.0	6.6	4.3
TOTAL (w/DUATS)	47.5	52.5	46.0	46.0	46.1	49.9	(0.6)	(12.4)	0.0	0.2	0.7

Source: FY 1990-2007, FAA Data and Forecasts

In summary, aviation activity at FAA and contract facilities is expected to grow at a slower rate than the general economy (1.5 to 2.0 percent versus 2.4 percent). Air transportation is expected to continue to dominate all other transportation modes in both long distance domestic intercity travel and in international passenger markets. The growth in commuter/air taxi aircraft activity is expected to be somewhat larger than that forecast for the larger commercial air carriers. In addition, the business component of general aviation is expected to achieve somewhat greater growth than that forecast for the general aviation pleasure sector.

CHAPTER II

ECONOMIC ENVIRONMENT

REVIEW OF 1995

The historical data used to project aviation demand and discussed in this section is derived from a number of sources. United States economic data is derived from annual and quarterly data supplied by the Council of Economic Advisors and a number of economic forecasting services. Since the quarterly estimates provided for the three series used for developing the aviation demand forecasts--Gross Domestic Product (GDP), Consumer Price Index (CPI), and the Oil and Gas Deflator--are annual rates, fiscal year estimates can be derived by averaging the four quarters of the fiscal year (October through September). Annual international economic data is derived from publications produced by The WEFA Group.

It should be noted that the specified years for the economic data discussed in this chapter are as follows: United States economic data is on a fiscal year basis and international economic data is on a calendar year basis (January 1 through December 31), unless designated otherwise.

UNITED STATES

In 1995, economic growth nearly kept pace with the previous year's 3.8 percent increase stretching the expansion phase of the current cycle to beyond 4 years. U.S. real GDP--the value of all goods and services produced in the Nation--grew at a 3.7 percent annual rate in 1995. The inflation rate, as measured by the CPI, increased at a pace of 2.9 percent over the year, near the 2.7 percent rate of a year earlier. Fuel prices, as measured by the oil and gas deflator, increased by 4.1 percent in 1995.

The U.S. economy showed sustained strength in the first quarter of FY 1995 (October through December), growing 5.1 percent. However, growth slowed to 2.7 and 1.3 percent in the second and third quarters only to pick up again to 4.2 percent in the fourth quarter. But consumers, who now hold substantial debt, appear to have slowed their spending during the last two quarters of the calendar year. The housing market, on the other hand, bounced back due to lowered mortgage rates. Likewise, spending on capital goods by manufacturers continued its strong pace over the year.

Unemployment remained below 6.0 percent for the entire fiscal year and stood at 5.6 percent in

the last quarter of FY 1995. Nonfarm employment rose just over 1.0 percent during the last two quarters, down from increases of 3.0 and 2.6 percent in the first two quarters.

The Federal Reserve may have engineered the much touted "soft landing" of the economy through a series of short-term interest rate increases. In July, the Fed began the process of lowering short-term rates to ensure that interest sensitive areas did not drive the economy into recession. The waning threat of inflation and the possibility of a balanced budget are expected to reduce long-term interest rates.

WORLD

World GDP expanded by 2.7 percent in 1995, up from a 2.1 percent increase a year earlier. All the world's developed nations had positive growth. Only Mexico and the former Soviet Union reported a loss in the level of their economic output. The developing economy of China had the highest output growth, with a 10.5 percent gain for the year.

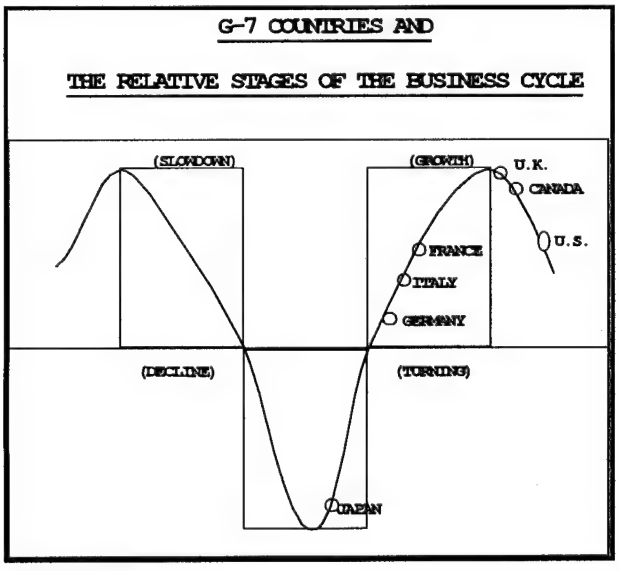
Asia leads the world in economic growth. Besides China, the Pacific Basin--Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand--experienced growth of 7.6 percent, higher than any other region of the world. Other Asian countries, India and Pakistan, grew by 5.9 percent in 1995.

In the remainder of the developing world, Africa and Latin America reported growth of 3.1 and 3.7 percent, respectively, in 1995. Eastern Europe GDP also grew at a respectable rate of 3.8 percent.

Among the developed nations, the European states had a combined growth rate of 2.9 percent, up slightly from the 2.6 percent growth of a year earlier. Australia and New Zealand reported growth rates of 3.5 and 3.2 percent respectively.

In North America, the United States has the highest growth rate (3.0 percent) in CY 1995, followed by Canada with 2.4 percent growth. Mexico has suffered substantial economic loss, reporting a 6.2 percent decline in economic output.

The developed economies, as represented by the G-7 nations--United States, Canada, United Kingdom, Germany, Italy, France, and Japan--are in varying phases of their economic cycles. Japan has suffered a prolonged sluggish period and remains in the recovery stage of the economic cycle with real GDP growth of only 0.8 percent in 1995. Germany, Italy, and France are each in the growth stage of the economic cycle, with real GDP growth of 2.5, 3.1, and 2.9 percent, respectively. The United Kingdom, Canada, and the United States economies, although experiencing positive GDP growth, find themselves on the declining stage of the economic cycle. Real GDP in these three countries is expected to average 2.6, 2.4, and 3.0 percent, respectively, in 1995. The following graphic provided by The WEFA Group depicts the economic cycle of the G-7 nations.



Inflation caused little concern among the major industrialized countries in 1995. Italy, with an estimated increase in prices of 5.3 percent, had the highest inflation rate among OECD countries. Japan, on the other hand, reported the lowest inflation rate, a negative 0.1 percent. Other G-7 countries have estimated 1995 consumer price increases ranging from 2.0 percent (France) to 3.5 percent (United .Kingdom).

Among the G-7 nations, short-term interest rates range from a high of 10.4 percent in Italy to a low of 1.2 percent in Japan. With the exception of Germany (down 0.9 percentage points) and Japan (down 1.0 percentage point), all G-7 countries experienced a rise in short-term interest rates in 1995. The increases in short-term interest rates ranged from 0.6 percentage points in France to 1.9 percentage points in Italy.

The Japanese yen appreciated to an average of 93.6 yen to the dollar in 1995 compared to 102.3 yen to the dollar last year. Likewise, the German mark has appreciated to an average 1.42 deutsche marks to the dollar in 1995 compared to 1.62 deutsche marks a year earlier. The British pound and Canadian dollar remained fairly constant over the year, averaging 0.64 and 1.37, respectively, to the dollar.

U.S. ECONOMIC OUTLOOK

The Executive Office of the President, Office of Management and Budget (OMB), provides the economic assumptions used in developing the FAA baseline aviation forecasts for the period 1996-2001. For the period 2002-2007, the FAA forecast uses economic assumptions based on the consensus growth rates of economic variables prepared by DRI/McGraw-Hill. Inc. (DRI), Evans Economics, Inc. (Evans), and The WEFA Group. All of the indices presented here have a single base year, except for the Consumer Price Index. The Bureau of Labor Statistics has based the CPI index on an average of the 1982 through 1984 time period. The U.S. trade-weighted exchange rate index and other international economic data were derived from The WEFA Group's World Economic Outlook.

The principal economic series used in the individual aviation models to develop the FAA aviation forecasts are discussed in the following pages. The data are presented in tabular form in Chapter IX, Tables 1 through 5.

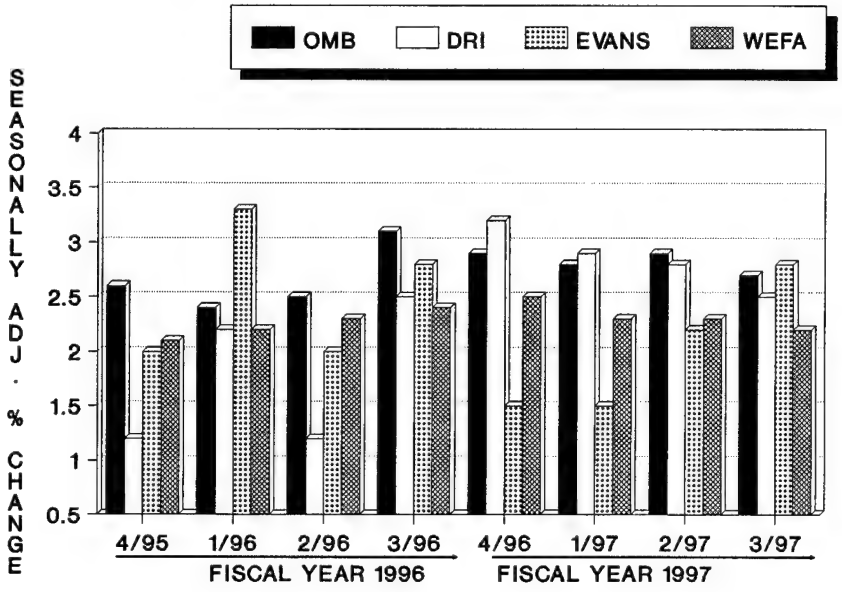
SHORT-TERM ECONOMIC OUTLOOK

The graphics on the following page show that the near-term forecast suggests moderate economic growth accompanied by moderate price increases. The quarter-to-quarter forecasts suggest real GDP growth rates ranging mostly from 2.0 to 3.0 percent over the next 2 years. Likewise, the inflation rate is expected to remain in the 2.0 to 3.0 percent range.

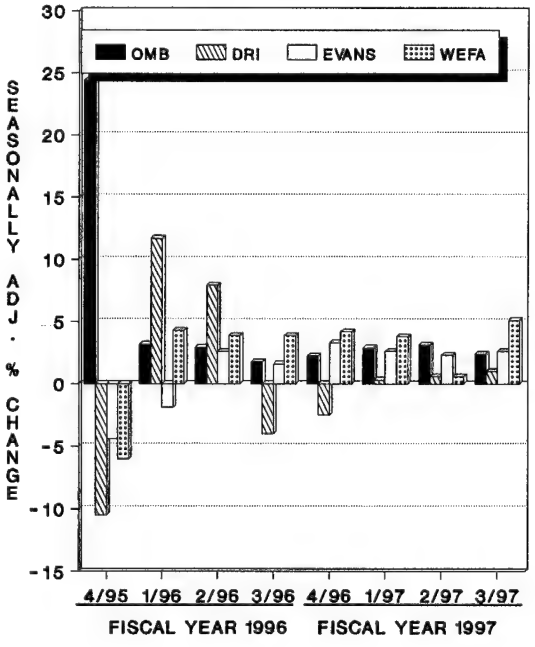
Robust economic growth continued in the United States for a second consecutive year in 1995, with GDP increasing 3.7 percent in real terms, just slightly below the 3.8 percent pace of 1994. However, the strong economic growth exhibited over the past few years is expected to moderate over the forecast period. OMB estimates that real GDP will expand at 2.7 and 2.8 percent annually over the next 2 years. Prices, as measured by the CPI, are also expected to remain in the moderate range, rising 2.6 and 3.0 percent annually over 1996 and 1997. The core rate of inflation, as well as the more volatile aspects (fuel and food) of the CPI appear in check. Oil and gas prices are not expected to add to inflationary pressures since fuel prices, measured by the oil and gas deflator, are projected to increase 4.8 and 2.6 percent in

U.S. SHORT-TERM ECONOMIC FORECASTS

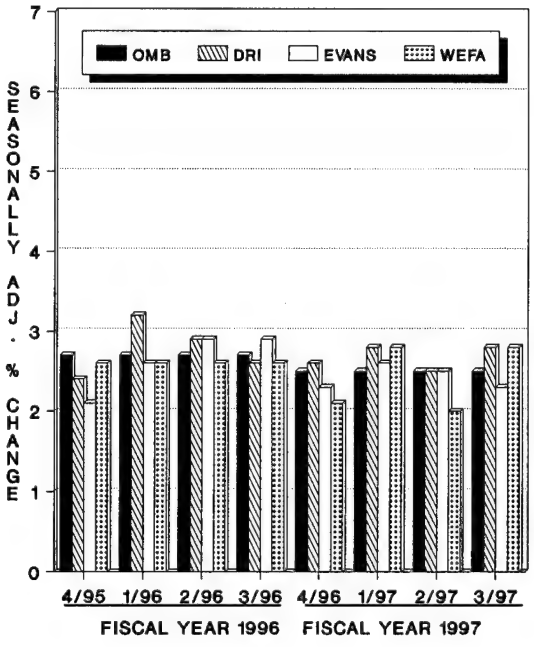
REAL GROSS DOMESTIC PRODUCT



OIL AND GAS DEFLATOR



CONSUMER PRICE INDEX



1996 and 1997. Hence, the real cost of fuel should remain about constant over the next two years.

LONG-TERM ECONOMIC OUTLOOK

The long-term economic outlook for the U.S. economy is for real GDP growth averaging 2.6 percent over the 12-year forecast period. Long-term growth depends on the growth in productive capacity or the amount of aggregate supply. Productive capacity, in turn, depends on demographic forces and productivity growth, while productivity depends on investment in capital goods.

The U.S. labor force grows in proportion to the increase in size of the population. The U.S. population is forecast to increase at approximately 0.9 percent annually over the forecast period. Business investment is projected to increase between 5.0 to 6.0 percent annually over the forecast period, generating productivity growth of 1.3 percent annually. The addition of the population growth rate and the productivity growth approximates the long-term growth rate of GDP.

Inflation is expected to remain in the moderate range throughout the 12-year forecast period. The CPI is expected to increase by an average of 3.0 percent annually between 1995 through 2007. The more volatile oil and gas prices are projected to increase somewhat more rapidly, at an average annual rate of 3.6 percent over the forecast period.

WORLD ECONOMIC OUTLOOK

The principal series used in developing the FAA international traffic forecasts are discussed in the following pages. These data are presented in tabular form in Chapter IX, Tables 4 and 5. Exchange rates for individual countries and GDP for individual, as well as groups of countries, were obtained from The WEFA Group's World Economic Outlook. These data are for calendar years and are expressed in 1990 U.S. dollars.

GROSS DOMESTIC PRODUCT

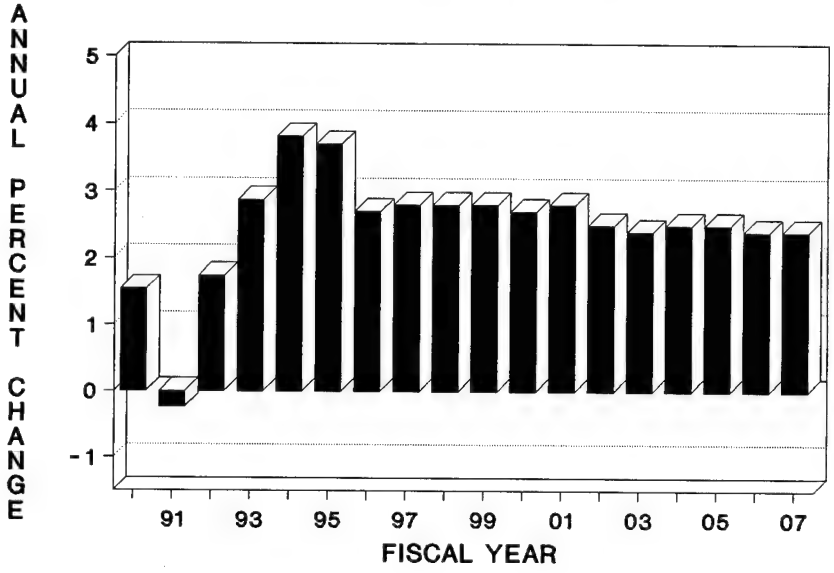
The graph on page II-8 depicts the historical trend and forecast GDP growth for the world and major economic regions of the world. World economic growth is expected to pick up its pace in 1996, with an anticipated growth of 3.3 percent compared to growth of only 2.7 percent in 1995. The annual growth rate for world GDP over the 12-year forecast period is 3.6 percent. The total goods and services produced in the world (measured in 1990 U.S. dollars) is projected to rise from $24.3 trillion in 1995 to $37.1 trillion in 2007.

The Pacific Basin and other Asian countries--including Japan, the newly industrialized and developing nations of Asia Pacific, China, India, Pakistan, Australia, and New Zealand--will continue to show strong economic growth throughout the forecast period. GDP growth in this rapidly expanding region is expected to average 5.0 percent annually over the forecast period.

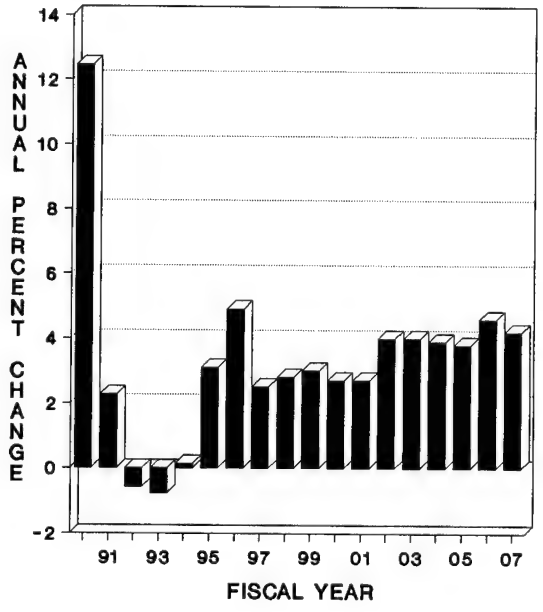
Japan, accounting for just over one-half of the region's economic output, grew by less than 1.0 percent in 1995, the fourth consecutive year of slow growth. Japan's GDP is forecast to grow at an annual growth rate of 3.1 percent

U.S. LONG-TERM ECONOMIC FORECASTS

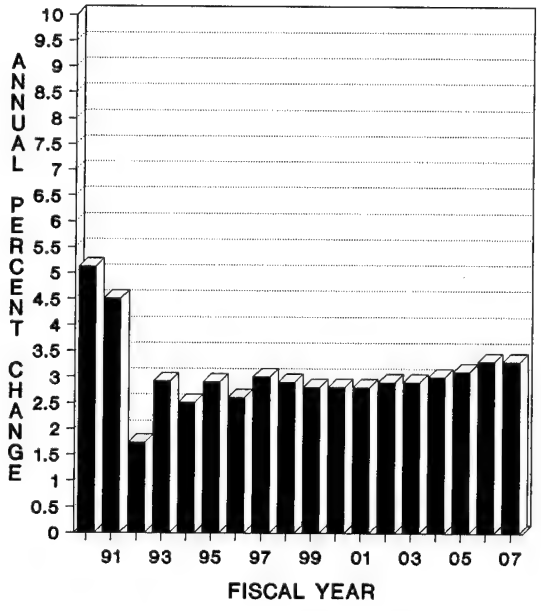
GROSS DOMESTIC PRODUCT
(1987 DOLLARS)



OIL AND GAS DEFLATOR
(1987= 100)



CONSUMER PRICE INDEX
(1982-84$)



over the forecast period. Major risks for the Japanese economy arise from internal political uncertainties and the continued strengthening of the yen. A stronger yen makes Japanese products more expensive to its trading partners.

The economies of the Pacific and developing Asian countries--including the Pacific Basin (Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand), China, and the newly developing countries of India and Pakistan--are projected to continue developing at growth rates exceeding most of the world's economies. The combined GDP of these countries is expected to increase to $5.2 billion by 2007, an annual rate of growth of 7.4 percent. China is projected to have the fastest growing economy, expanding at an annual rate of 9.2 percent over the forecast period. The specific issues affecting the growth of this geographic region vary from country to country. However, political instability and the lack of adequate infrastructure continue to plague most of the nations of this region.

Latin America countries (excluding Mexico) displayed solid growth in 1995, with GDP rising by 3.7 percent. Economic activity in the region is expected to increase sharply over the next several years, with GDP growth projected to average 4.0 percent in 1996 and 5.2 percent in 1997. The long-term prospects for Latin American countries appear to be very positive, with GDP growth expected to average 4.9 percent over the forecast period.

Foreign investment, which fell after the Mexican peso crisis, has returned to Latin America. In particular, Brazil, Chile, and Peru have recently attracted large amounts of foreign investment. Latin American countries are beginning to impose restrictions on the flow of short-term capital. These restrictions are expected to help stabilize monetary policy in the region.

Mexico, a full partner in the North American Free Trade Agreement, suffered a major economic recession in 1995 with the GDP falling 6.2 percent. However, the Mexican economy is projected to turn around in 1996 with GDP expanding at a rate of 3.8 percent. The Mexican recovery could falter if nonperforming loans continue to increase or if speculative forces continue their downward pressure on the peso. However, the long-term growth prospects for Mexico appear good, with its economy projected to grow by 4.8 percent annually over the entire forecast period.

Economic growth in Europe, the Middle East, and Africa is projected to average 3.1 percent annually over the forecast period. Europe, which makes up more than 80 percent of the region's economic output, is forecast to achieve somewhat slower economic growth than the Middle East and Africa, averaging a moderate 2.6 percent over the forecast period. However, growth in the Middle East countries is forecast to average 5.9 percent annually while the African economy is projected to average 4.4 percent yearly.

Europe had a moderate year of economic growth in 1995, with GDP increasing by 2.9 percent. Although high unemployment remains a problem in parts of Europe, such as in former East Germany, it is not an overriding concern. Lower interest rates and currency depreciation are expected to assist Europe in continuing its economic expansion.

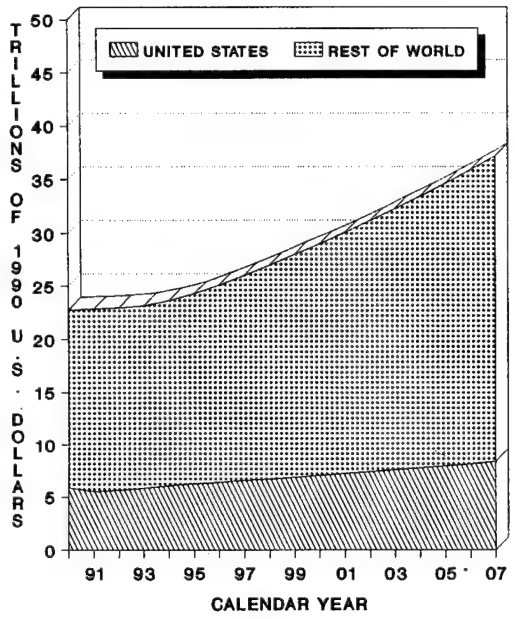
Somewhat higher fuel prices have helped to boost the economies of most countries of the Middle East. However, political instability gives rise to potential for risk in the forecasts for this region. Africa remains an economic region heavily dependent on commodity exports.

Growth in Developed Nations

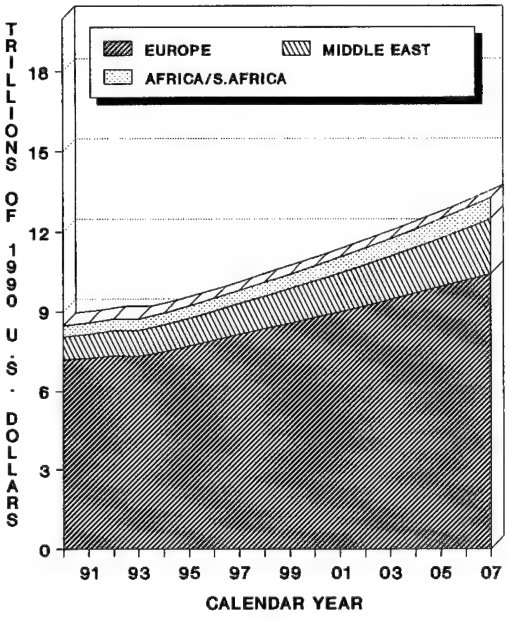
The WEFA Group characterizes present economic activity in the world's developed

GROSS DOMESTIC PRODUCT BY WORLD REGION

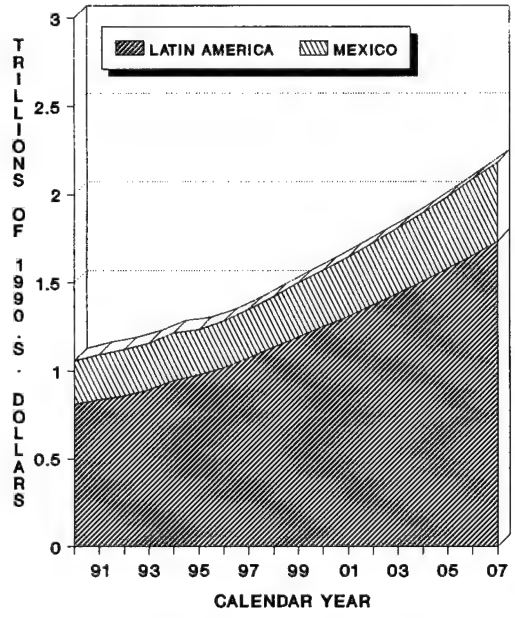
WORLD



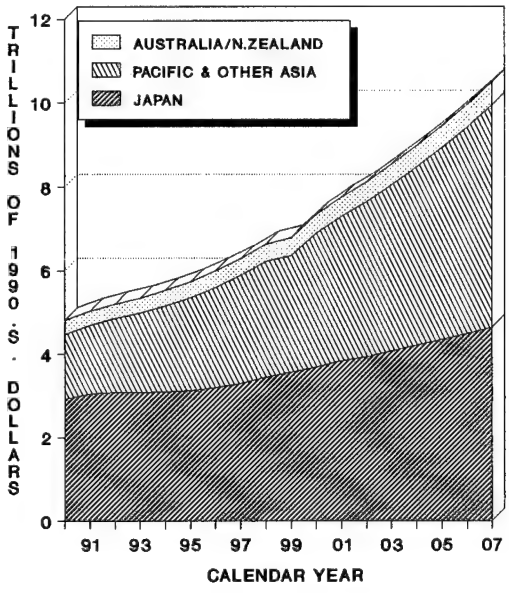
EUROPE/MIDDLE EAST/AFRICA



LATIN AMERICA AND MEXICO



JAPAN/PACIFIC & OTHER ASIA/ AUSTRALIA/NEW ZEALAND

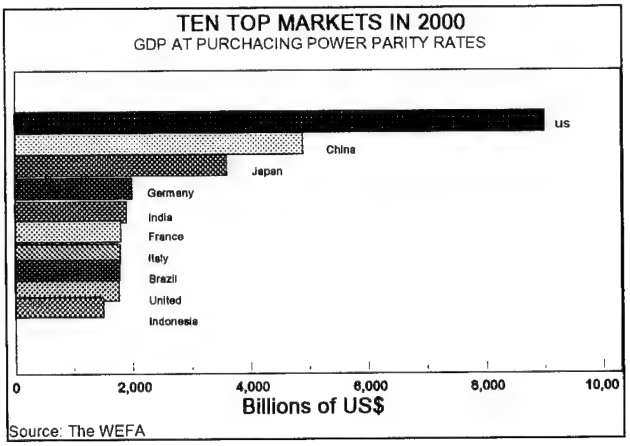


nations as "3M"--moderate output growth, moderate inflation, and moderate interest rates. GDP for the developed countries of the OECD (Unites States, Canada, United Kingdom, France, Germany, Italy, and Japan) is forecast to grow at 2.5 percent for 1996, rising slightly to 2.6 percent in 1997 and 2.8 percent in 1998. Prices in OECD countries rose only 2.0 percent in 1995. A subdued labor market, global competition, and growing independence of central banks have contributed to this climate of stable prices. In addition, both short-term and long-term interest rates are far from excessive in any of the OECD countries.

Growth in Developing Nations

Changes in the world economic scene will render a much changed world market place by the year 2000. Over the next 5 years, four emerging markets will hold positions among the top ten economies as measured by GDP purchasing power. As shown in the following graph, these emerging counties--China, India, Brazil, and Indonesia--will rank second, fifth, ninth, and tenth, respectively, among world economies These rapidly growing countries represent vast new markets for both consumer and capital goods.

As demonstrated by the newly found economic power of Asian and Latin American countries, these two areas will have substantial impact on the world economy. In Asia, China drives economic development, acting as a locomotive of growth for the region and, to some extent, for the world. Although China faces enormous problems, ranging from political instability to a vastly underdeveloped infrastructure, it is forecast to maintain a sustainable growth at 9.0 to 10 percent over the 12-year forecast period.



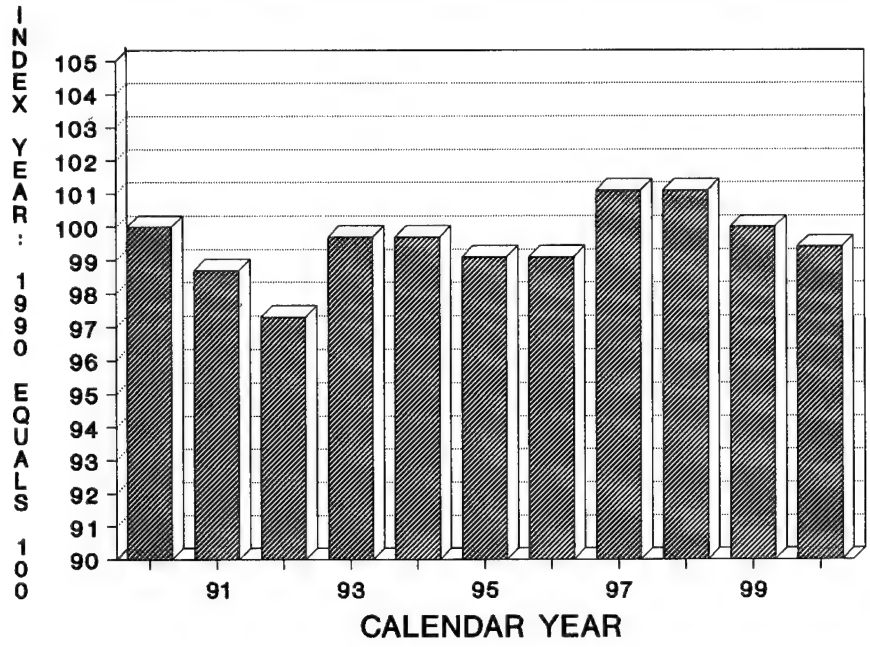
In Latin America, both Brazil and Argentina will drive the economy of this region. Although price inflation in Brazil remains relatively high (77 percent in 1995) in comparison to OECD standards, it has decreased substantially over the past year and is forecast to drop below 10 percent by 2000. Real GDP growth for Brazil is projected to increase at a rate of 5.7 percent over the rest of the century. Brazil's major risk lies in the possibility that recent reforms do not go far enough in curbing inflation. In Argentina, the economy is forecast to grow out of its 1995 recession, with the GDP increasing at an average of 4.0 percent out to 2000.

DOLLAR EXCHANGE RATE

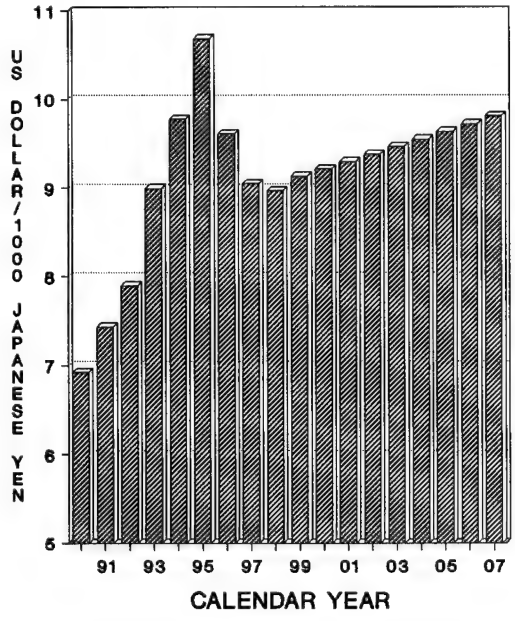
The graphic on the following page shows historic and forecast values for the U.S. trade-weighted real exchange rate. The U.S. trade-weighted real exchange rate measures the purchasing power of the U.S. dollar on the world's markets, taking into account both the amount of trade the United States conducts with other countries as well as price differences. The graph also displays the historical and projected dollar exchange rates against the Japanese yen and the German mark.

EXCHANGE RATE TRENDS AND FORECASTS

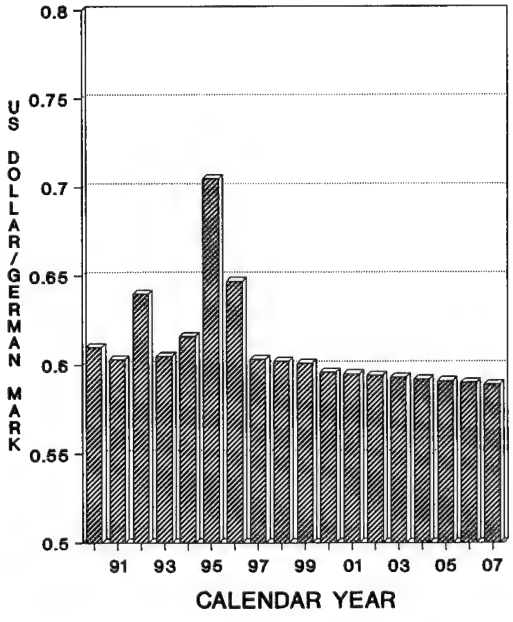
U.S. TRADE WEIGHTED REAL EXCHANGE RATE



JAPANESE YEN



GERMAN MARK



The purchasing power of the U.S. dollar relative to the rest of the world has fallen since 1990 but is forecast to increase in 1997 and 1998 before falling back to 1995 levels in 1999. The dollar depreciated against the yen in 1995 with the cost of buying 1,000 yen rising to $10.69, up from $9.78. The dollar is projected to appreciate to $8.97 per 1,000 yen by 1998 before depreciating over the remainder of the forecast period. The deutsche mark (DM) has depreciated relative to the dollar, rising from $0.62 per DM in 1994 to $0.71 per DM in 1995. The U.S. dollar is projected to appreciate to $0.60 per DM by 2000.

OTHER ECONOMIC ISSUES

FUTURE CHANGES IN GDP MEASURE

The new information age and the explosion of computer and computer-related equipment has compelled the Bureau of Economic Analysis (BEA) to adjust its method of estimating GDP. This modification will affect the GDP growth rate. The new GDP estimates will be used in developing next year's FAA aviation forecasts.

The method now used to estimate GDP applies fixed or base year prices to estimate the amount of goods and services produced. This assumes that relative prices (for instance, the price of a computer in relation to a car) remain the same for each year. Since changes in relative prices can become substantial over time, the current method of estimating GDP can seriously distort the actual measure of economic growth. Changes in the relative prices of computers and other electronic equipment have made this problem more severe. Because of the increasing distortion of the GDP measure, the BEA has decided to weight its estimates of GDP based on the relative prices of the most recent year (technically known as chain-link weighting).

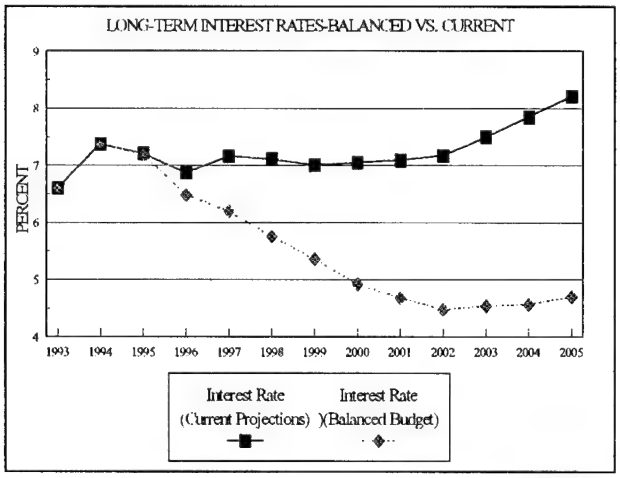
Since falling prices entice buyers to purchase more items, the growth rate for goods and services that are declining in price is higher than the growth rate in other sectors that have constant or increasing prices. However, economic growth is measured at the higher price levels. This inaccuracy causes a bias (known as the substitution bias) in the GDP estimates. The computer revolution has had a significant influence on the GDP calculation because computer equipment prices have fallen rapidly at the same time that computer equipment accounts for larger and larger shares of business and consumer purchases. As a result, business fixed investment (business equipment), in which computer equipment makes up a significant share, has increased nearly 2.0 percent more annually than if measured under more recent (lower) prices.

The new method of calculating GDP has one major drawback--non-additivity (the sum of the parts does not add up to the total). With the revised GDP estimating method, a distortion appears for data further from the base year. For years near the base year, the sum of the parts is very close to the aggregate. However, most statisticians feel that the advantages in the new method outweigh the non-additivity problem.

The new BEA method of estimating changes in GDP is expected to provide a more realistic measure of economic growth. However, this new method will alter both the historical and forecast values of GDP forecast. At this time it is not known what impact, if any, these changes will have on the historical relationships between economic growth and predicted aviation activity. The exact amount of the change is difficult to measure. However, The WEFA Group estimates that the new BEA method will show a GDP growth rate that could be 0.5 percent lower than the growth rates estimated using the current GDP estimation techniques.

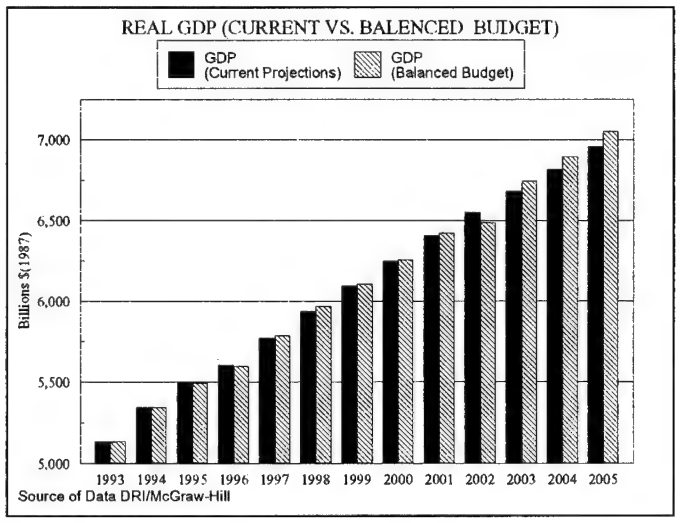
ECONOMIC EFFECT OF A BALANCED BUDGET

If the Administration and Congress agree on eliminating the Federal budget deficit in 7 years (by 2002), the long-term net effect on the economy is expected to be positive. The elimination of the government budget deficit will reduce the yields on long-term bonds, thus stimulating interest-sensitive sectors of the economy. DRI/McGraw-Hill estimates that the 30-year Treasury bond rate would fall to approximately 4.5 percent compared to an estimated 7.2 percent yield without a balanced budget.



The housing sector is more sensitive than any other sector of the economy to changes in long-term interest rates since a drop in interest rates directly reduces the cost of purchasing a home. DRI estimates that the lower interest rates would result in a 5.5 percent rise in residential investment.

DRI/McGraw Hill has estimated that a balanced budget agreement would result in higher long-term growth for the U.S. economy. The graphic above depicts U.S. GDP comparing DRI's current projection to one assuming a balanced budget.



INCOME TRENDS

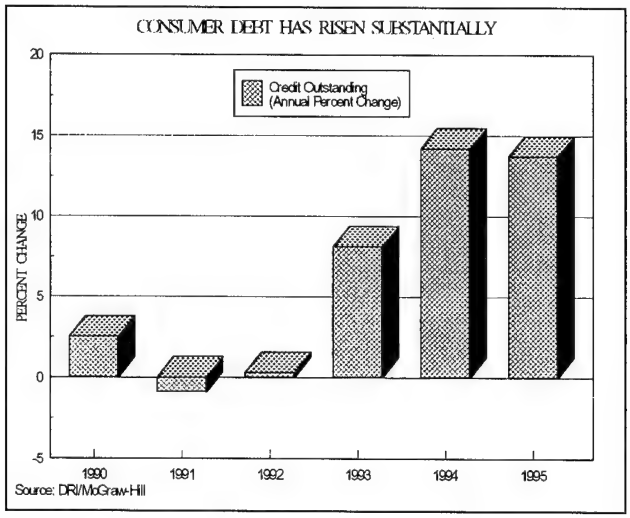
Non-business travel has grown over the years for two reasons: the relative cost of flying has decreased and the incomes of average Americans have grown. Structural changes in the U.S. economy threaten to diminish the effect of one of these factors--income growth. Although the GDP is projected to grow at a moderate pace throughout the forecast period, the future income stream and, in particular, discretionary income of many Americans have a less certain future.

The Employment Cost Index, measuring what workers earn, demonstrates the declining fortunes of middle-class Americans, those who account for the bulk of the increased leisure air travel. The year-to-year increase in this measure has trended downward for more than a decade. Also, average incomes of households in the United States declined during the 1990 recession, and have yet to regain their pre-recession peak.

Adding to the squeeze on the spending power of the average American, health care costs have risen substantially over the past decade. In 1987, insurance costs, consisting primarily of health care insurance, comprised 5.2 percent of

employee compensation. By 1994, insurance costs had risen to 7.2 percent of hourly labor wages, declining to 6.7 percent during the past year. In addition, total benefits, including insurance, leave, and retirement, have increased over the 1987-95 period, rising from 26.8 to 28.4 percent of employee compensation.

Further suggesting a pattern of declining fortunes for the American middle class, the income distribution has become more skewed toward the wealthy. In 1980, the top fifth of American households earned 44 percent of total household income. This share has risen to 49 percent in 1994.

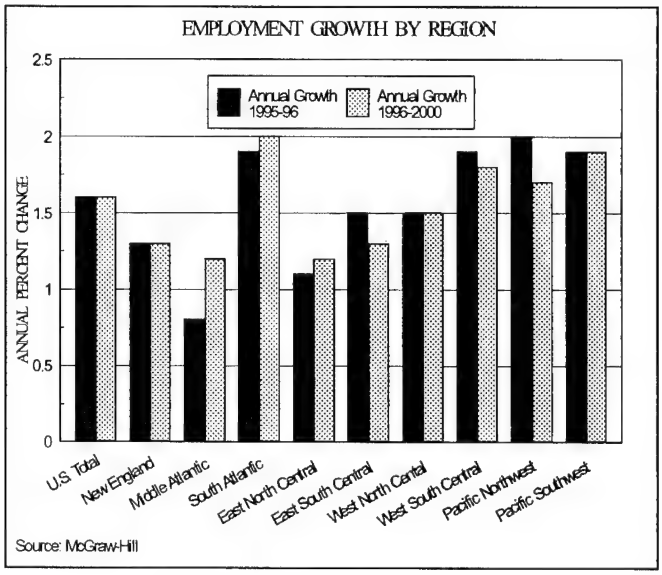


Another factor adversely affecting the ability of Americans to consume is the substantial increase in the debt-to-income ratio in recent years. As shown by the above graphic, the percentage increase in outstanding debt has sharply increased over the past few years. Americans now owe a record 19.1 percent of their incomes in consumer installment debt.

To wrap up, the average American household has not shared in the overall economic growth over the past decade. If this trend continues, the propensity of these households to purchase discretionary goods and services, including airline tickets, may decline substantially.

REGIONAL ECONOMICS

Although the U.S. economy is expected to increase moderately over the 12-year forecast period, the economic fortunes of the many regional U.S. economies will have varied performance levels. Aviation growth, of course, will trace the regional economic growth patterns, with stronger growth in those regions with the fastest growing economy.



Since 1993, employment growth, a solid indicator of a region's economic performance, has ranged from a 4.1 percent annual rate in the West South Central region (Arkansas, Louisiana, Oklahoma, and Texas) to 1.2 percent in the Middle Atlantic region (New Jersey, New York, and Pennsylvania).

Over the next few years, new auto and electronics industries will lift growth potential in the South while expanded Pacific Rim trade will keep Pacific states growing. The Middle Atlantic and East North Central States are expected to experience relatively slower growth. The above graphic depicts employment growth by region for the period 1995 through 2000.

ECONOMIC FORECAST SUMMARY

The short-term outlook for the U.S. economy shows GDP expanding at an estimated 2.7 and 2.8 percent in 1996 and 1997. In a similar manner, price rises for consumer goods and fuel should remain in the moderate range. For the entire 12-year forecast period (1995-07), U.S. real GDP is projected to rise at a yearly rate of 2.6 percent. The CPI is projected to rise at a 3.0 percent annual rate over the forecast period.

For the world in total, real GDP is projected to grow by 3.3 percent in 1996. The long-term world GDP growth is expected to increase at 3.6 percent annually over the forecast period. Consumer prices for OECD, Europe, Australia, and New Zealand are forecast to range from 8.0 percent in Greece to 0.2 percent in Japan, with most countries falling between 2.0 and 5.0 percent price inflation.

Two areas of the world, Asia and Latin America, will provide the momentum for world economic growth over the next 12 years. In Asia, annual GDP growth is projected at 5.0 percent. China will dominate the growth in this area, increasing its GDP from $635 billion in 1995 to $1,829 billion in 2007, a 9.2 percent annual growth rate. Latin American GDP is projected to maintain a pace of 4.9 percent annual growth rate over the forecast period.

IMPACT ON AVIATION

Both the domestic and international economic forecasts present an optimistic outlook for U.S. commercial aviation. The short- and long-term economic growth in the United States and the world, along with the anticipated decline in real fuel prices, gives rise to a positive climate for the aviation industry.

On average, air travel has increased at a rate proportionately more than the rise in income. Hence, the 3.7 percent 1995 growth in U.S. GDP resulted in a 5.1 percent increase in revenue passenger miles (RPMs) in 1995. Over the forecast period, GDP is forecast to increase 2.4 percent annually while RPMs are projected to rise at a 4.3 percent rate.

Expanding economic activity throughout the world should continue to be an impetus to international air travel. With the Latin American countries expected to increase their GDP at a yearly rate of nearly 5 percent, travel between the United States and Latin America is projected to increase at a 6.3 percent rate over the forecast period. The rapid and continuing economic success in Asia will mean more flights to and from that region of the world. Asia is predicted to expand its economic growth by 5.2 percent a year, while travel between the United States and Asia is projected to increase by 6.2 percent annually over the period.

CHAPTER III

COMMERCIAL AIR CARRIERS

In FY 1995 there were 80 U.S. commercial airlines (both scheduled and nonscheduled) reporting traffic and financial data to the Bureau of Transportation Statistics (BTS), Department of Transportation (DOT), on Form 41. There were 56 passenger airlines (operating aircraft with over 60 seats) and 24 all-cargo carriers. While there are more carriers this year than last, additions are primarily in the scheduled segment of the industry.

Forty-one of the airlines provided scheduled passenger service and constitute the focus of the air carrier forecasts (both domestic and international) discussed in this chapter. Thirty-nine of the carriers provided scheduled domestic service (within the 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands), while 15 of the carriers provided scheduled international service. Of the carriers providing scheduled international service, 9 served Atlantic routes, 9 served Latin American routes, and 5 served Pacific routes.

Air carrier traffic forecasts and assumptions discussed here are presented in Chapter IX (Tables 6 through 17). FAA air carrier workload forecasts are discussed in Chapter VII and presented in Chapter IX (Tables 27 through 37).

It should be noted that all specified years in the remainder of this chapter are fiscal years (October 1 through September 30), and specified quarters are calendar quarters, unless designated otherwise.

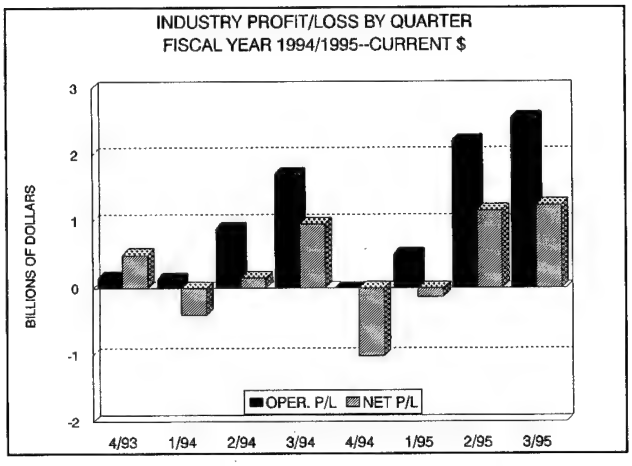
REVIEW OF 1995

FINANCIAL RESULTS

In 1995 financial performance of the U.S. commercial airline industry showed significant improvement over 1994. The U.S. economy continued to expand in 1995, along with the key economies in Europe, Asia, and Latin America. Essentially, financial improvement was based on capacity control, strong growth in traffic, and the firming of yields in the second and third quarters of the year. However, fare competition remained strong and both average nominal and real yields declined over 1994. The industry managed to slow the growth of capacity during the year, which pushed domestic and international load factors to all time highs.

Operating profits in 1995 were more widespread than in 1994. In 1995, nine out of the 11 major

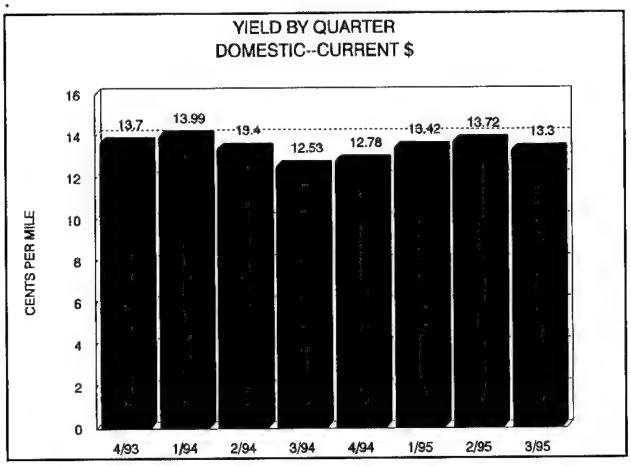
carriers in the industry made an operating profit. The shift in operating profit between the years 1995 and 1994 was over $2.7 billion. The industry operating profit in 1994 was $2.6 billion. In 1995 the operating profit was over $5.3 billion, more than double the 1994 level.

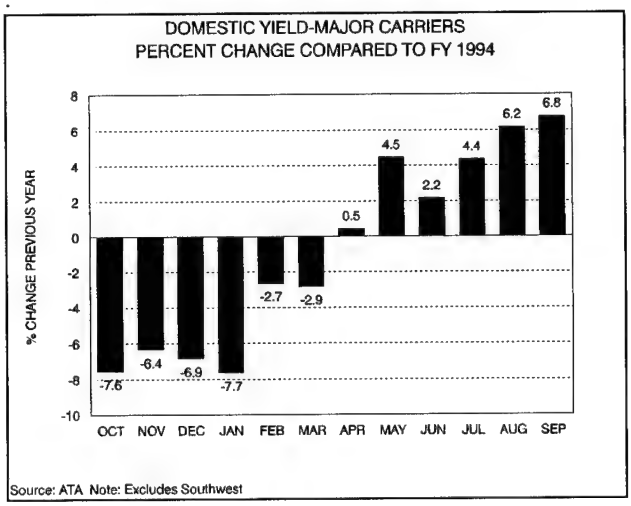


Although the industry experienced a small operating loss in the last quarter of 1994, it saw an operating profit in the first three quarters of 1995. For the year, operating revenues increased 5.2 percent, while operating expenses increased only 2.2 percent, continuing the downward trend in the growth of costs. In 1994 operating expenses were up 2.4 percent, and in 1993 they increased 3.6 percent.

An important financial change for the year was the relatively large increase in yields for the major carriers and the industry during the second and third quarters. For the industry, domestic nominal yields were up 2.4 percent in the second quarter and 6.2 percent in the third quarter. For the year, yields declined only 0.4 percent. The most recent data indicates that fares are continuing to increase. In October, the major carriers had a 8.1 percent increase in domestic yields.

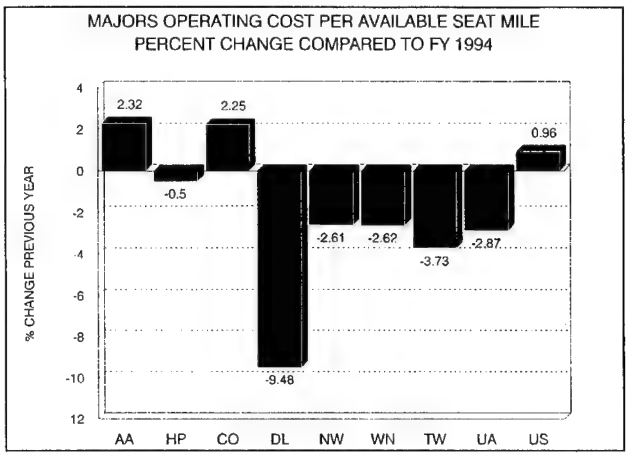
During 1995, nominal international yields increased 0.2 percent to 11.17 cents. The Atlantic market (9.88 cents) was up 6.4 percent, while the Latin American (13.70 cents) and Pacific (11.55 cents) markets declined 2.7 percent and 5.2 percent, respectively.

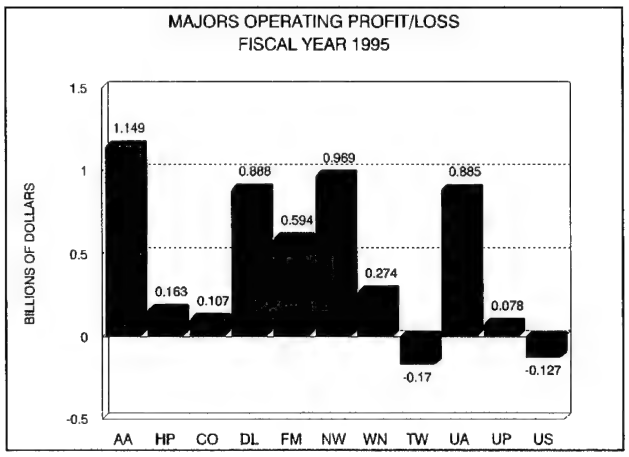


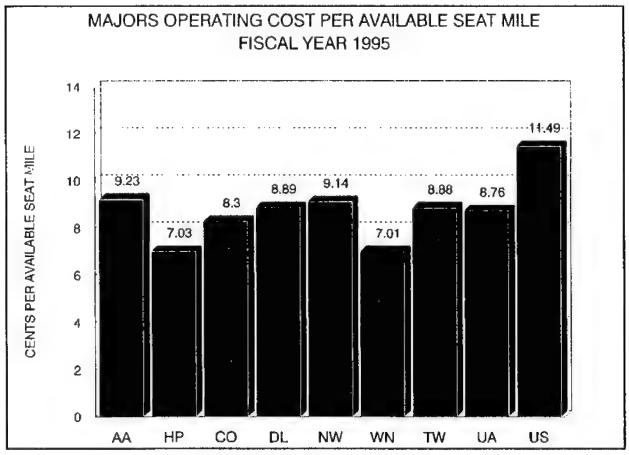


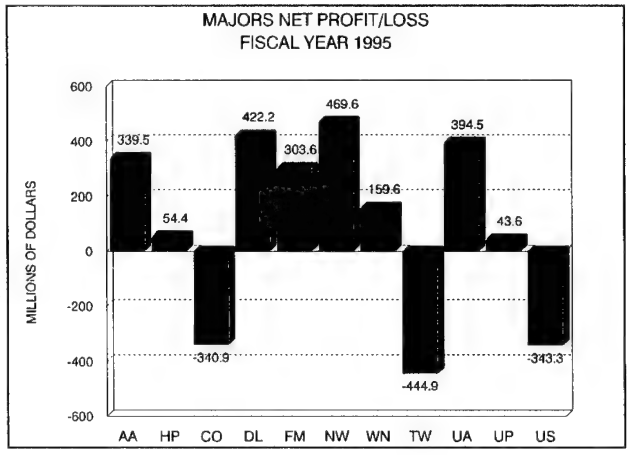
Competition continues to force the larger carriers to reduce their unit costs to the levels achieved by the more efficient carriers. During 1995, six out of the nine major carriers reduced their unit costs. The largest reduction of 9.5 percent was achieved by Delta, followed by TWA with a reduction of 3.7 percent.

In 1995, Southwest had an operating cost per available seat mile of 7.01 cents, while Valujet's unit cost was only 6.89 cents. The highest unit cost among the major carriers was USAir with 11.49 cents per available seat mile. In 1995, the average operating cost per available seat mile for the system was 8.99 cents, down 2.6 percent from 1994.









For the second consecutive year, U.S. airlines posted a net profit of almost $1.2 billion. During 1993 the industry's net loss was over $2.9 billion, and in 1992 and 1991, the net losses were $3.0 billion and $4.7 billion, respectively.

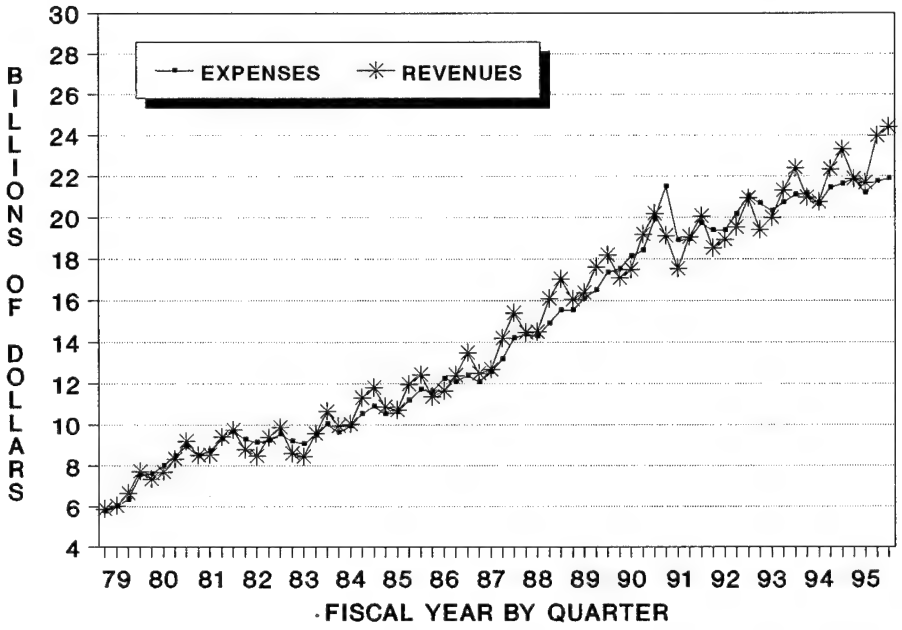
The following two graphs show operating and net profit and loss for the air carriers classified as majors. Both of the cargo airlines made an operating profit. Nine major airlines showed an operating profit in 1995, compared to seven in 1994. Of the nine passenger airlines, seven showed an operating profit while two showed a loss. USAir had the largest operating loss at $127 million, while American had the largest operating profit at $1.1 billion.

During the next several years intense competition within the industry is expected to push real fares downward. However, falling fares along with modest to strong growth in the economy will continue to expand aviation activity and increase passenger revenues. The industry is also undergoing major structural changes in an attempt to control and reduce operating costs. If the carriers are successful, we can expect operating profits to continue to improve in the short- and long-term.

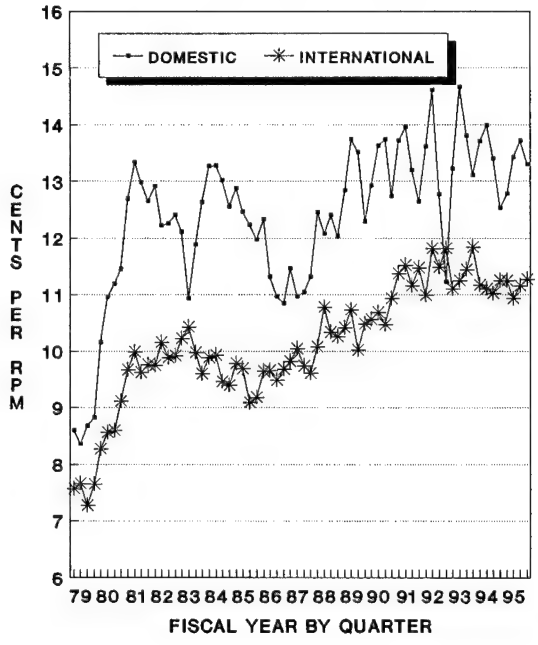
The current forecast assumes declining real fares and continued strong growth in aviation activity. This would allow for industry financial improvement in 1996 and beyond, assuming that costs can be brought under control.

U.S. AIR CARRIER REVENUE AND COST TRENDS

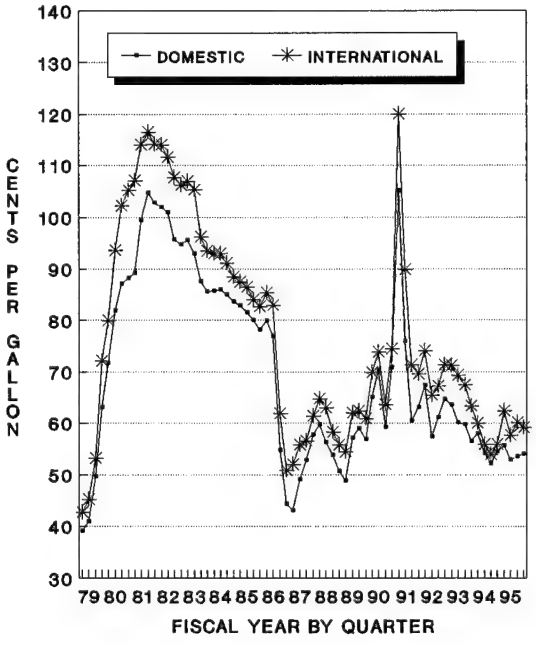
OPERATING REVENUES AND EXPENSES



PASSENGER YIELDS



JET FUEL PRICES



(ALL VALUES IN CURRENT DOLLARS)

SCHEDULED PASSENGER TRAFFIC AND CAPACITY

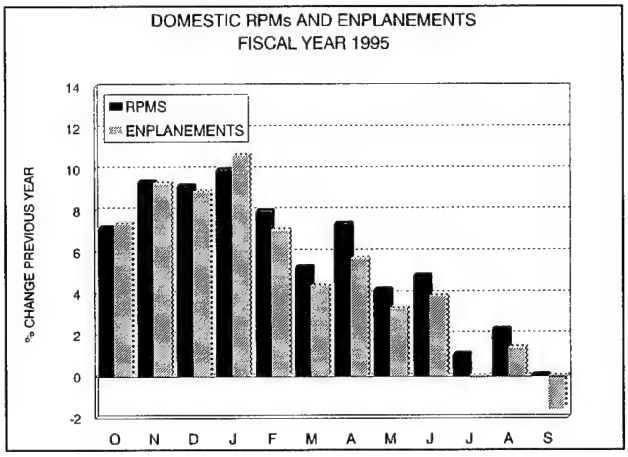
Scheduled system (domestic and international) passenger traffic on U.S. commercial airlines showed significant growth in 1995. System demand for air travel (as measured in RPMs) increased 5.2 percent. This follows 1994's increase of 5.5 percent. Domestic RPMs, which account for over 70 percent of system RPMs, increased at a relatively faster rate than international RPMs .

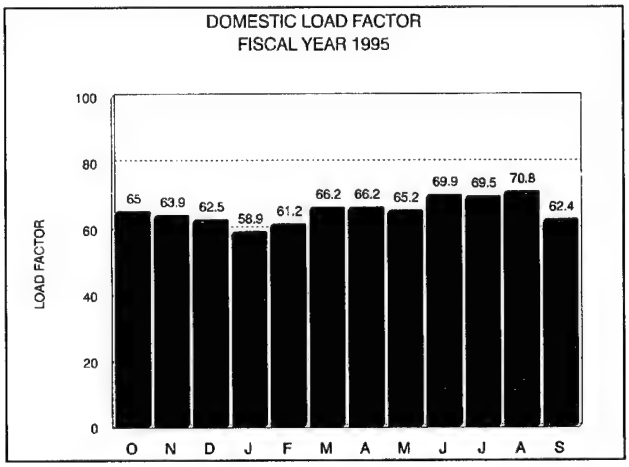
The slower growth in total international traffic was attributable to an increase of only 0.3 percent in RPMs in the Atlantic market. The Latin American and Pacific markets both increased at faster rates than the domestic market. The increases were 10.4 percent and 6.0 percent, respectively.

System available seat miles (ASMs) increased 3.6 percent, up from the 1.0 percent increase achieved in 1994. The increase resulted in a system load factor of 66.8 percent, up 1.1 percentage points from 1994's record high level of 65.7.

Domestic Passenger Traffic and Capacity

Domestic RPMs increased 5.7 percent in 1995 to 392.4 billion. This outcome was largely the result of the relatively strong growth in the economy and the continued decline in real yields. Domestic passenger enplanements (495.9 million) increased by 5.1 percent in 1995; in 1994 the increase was 8.8 percent.



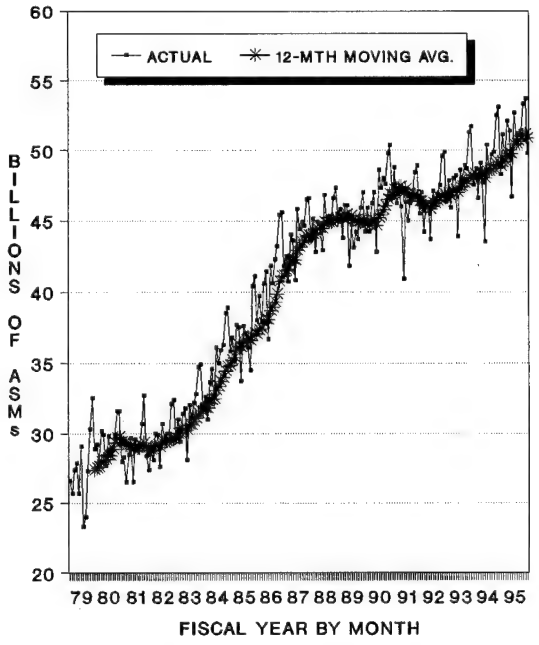


Domestic capacity increased by 4.1 percent in 1995. This increase, along with an increase in RPMs of 5.7 percent, resulted in a load factor of 65.2 percent--the highest ever achieved on domestic routes. The previous high of 64.2 percent was achieved in 1994.

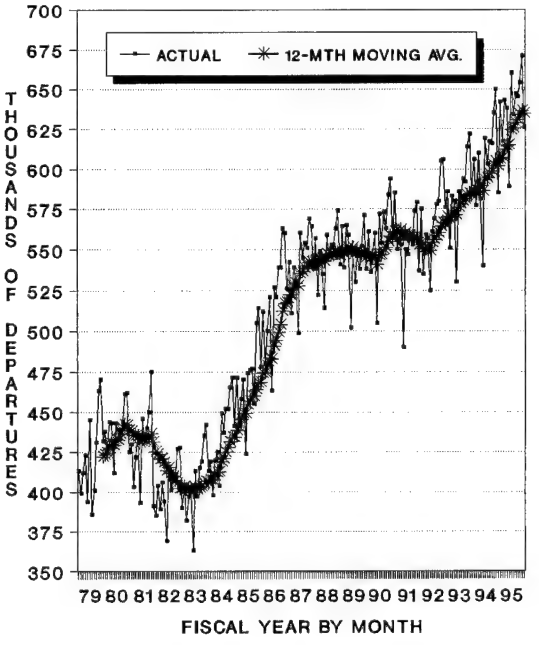
Industry concentration, in terms of the percentage of RPMs carried by the three largest carriers, decreased in 1995. American, United, and Delta's share of RPMs declined to 52.0 percent in 1995, down from 53.1 percent in 1994, and 55.5 percent in 1993. The share for these three carriers is expected to decrease in the short-run due to continued downsizing and the continuation of strong growth of the new-entrant low-cost carriers.

U.S. AIR CARRIER DOMESTIC TRAFFIC TRENDS

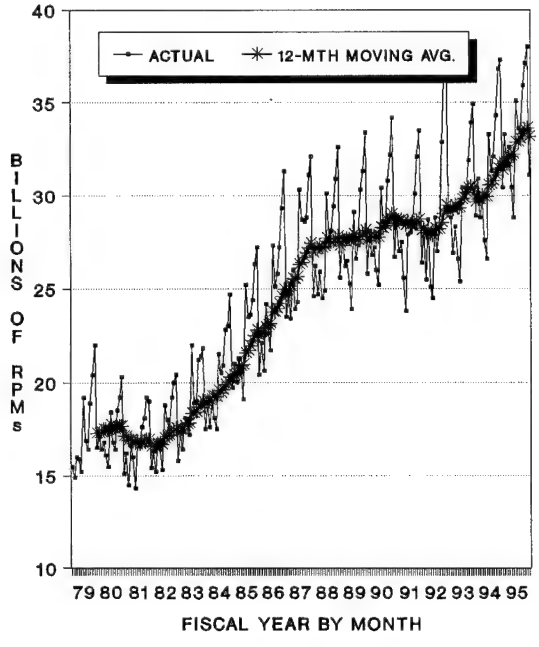
AVAILABLE SEAT MILES



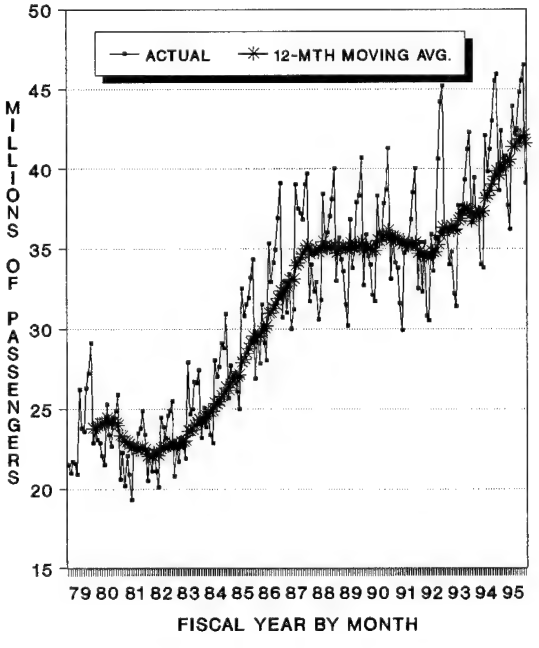
AIRCRAFT DEPARTURES



REVENUE PASSENGER MILES



PASSENGER ENPLANEMENTS

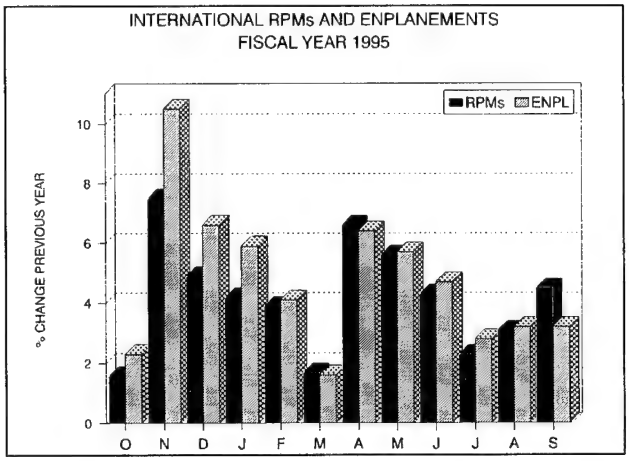


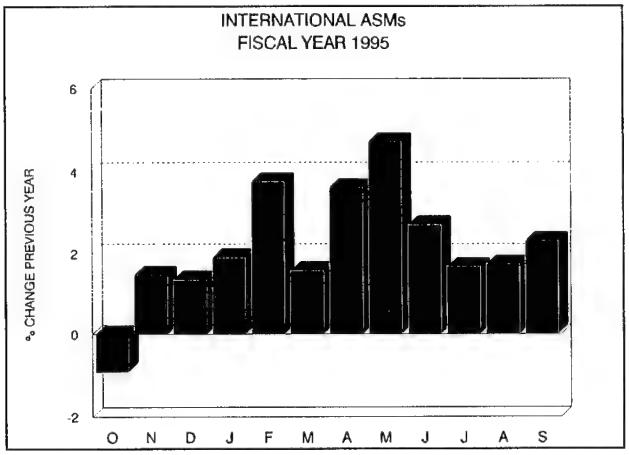
International Passenger Traffic and Capacity

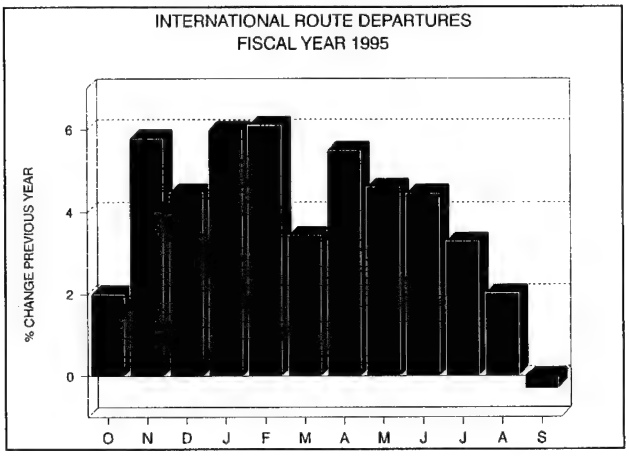
International traffic continued to show accelerating growth in 1995, with RPMs increasing 4.1 percent and enplanements up 4.6 percent. In 1994 both RPMs and enplanements increased only 2.8 percent and 2.5 percent, respectively. Growth in traffic along with relatively slower growth in ASMs of 2.1 percent, pushed the load factor to 71.4 percent--an increase of 1.4 points. This is the highest load factor ever achieved in the international sector.

The significant growth in international traffic is attributable to both the Latin American and Pacific markets. The Atlantic market, which now accounts for about 45 percent of total international traffic, showed a relatively small increase in RPMs and a decline in enplanements during the year. From 1985 through 1995 the Atlantic market's share of international traffic dropped over 11 percentage points. During this period, Atlantic RPMs grew 6 percent a year, while Latin American and Pacific RPMs grew at annual rates of 9.7 percent and 11.5 percent, respectively.

The strength of the international market is clearly evident when comparing monthly growth rates with the same months of last year. As the accompanying graphs show, traffic increased in every month of 1995 relative to 1994. Along with this growth, capacity expanded in every month except October 1994, which was down only 0.9 percent.

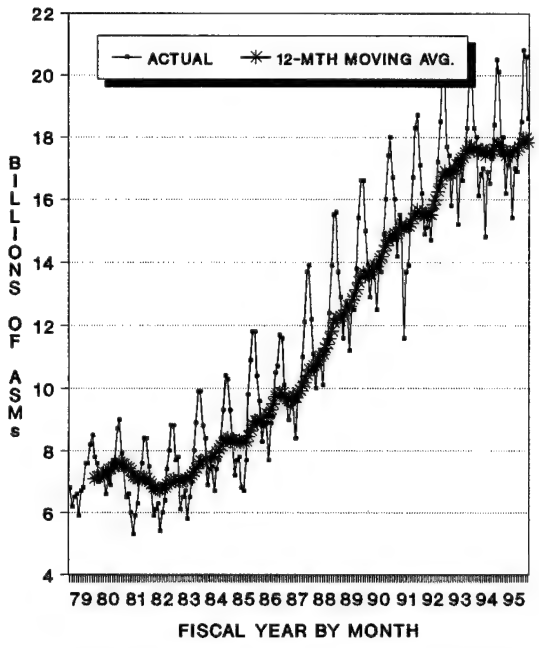




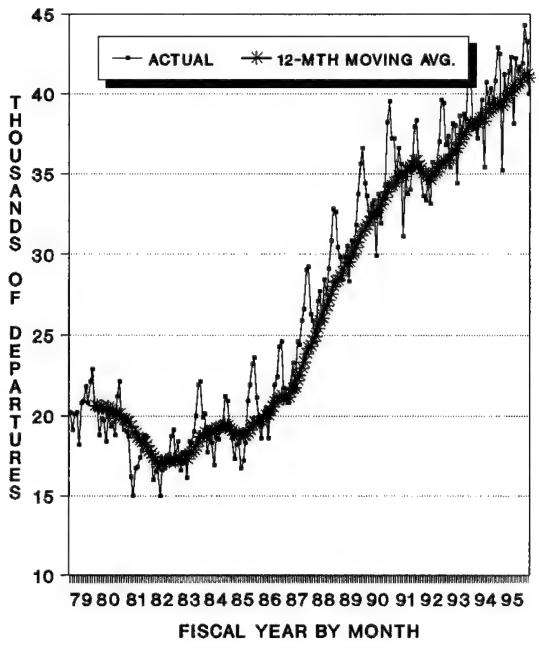


U.S. AIR CARRIER INTERNATIONAL TRAFFIC TRENDS

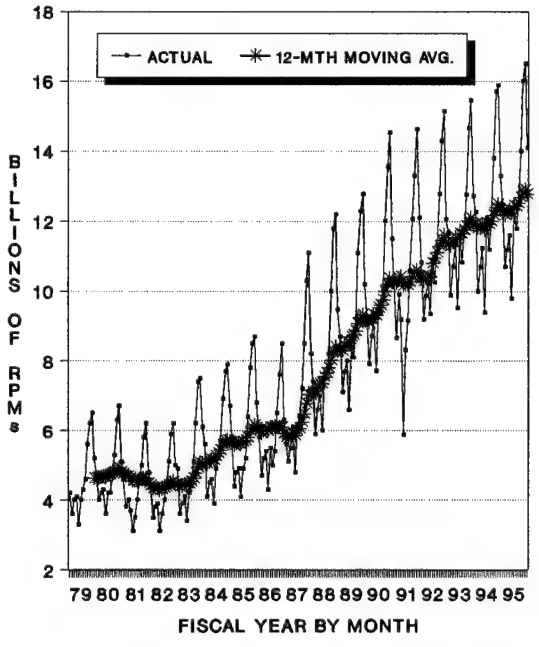
AVAILABLE SEAT MILES



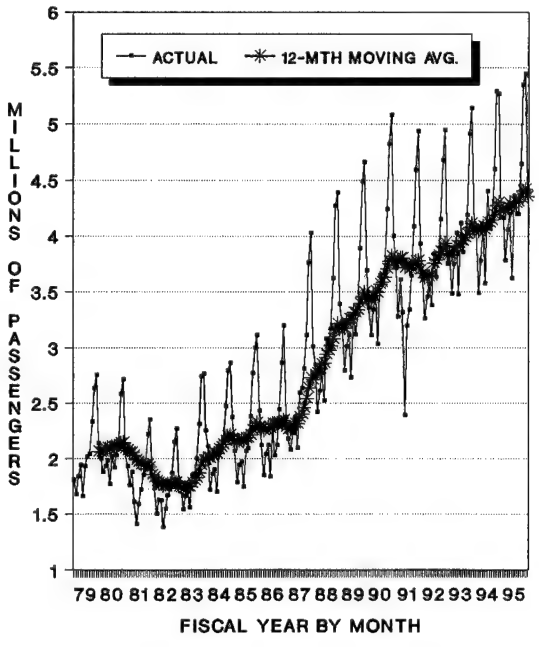
AIRCRAFT DEPARTURES



REVENUE PASSENGER MILES



PASSENGER ENPLANEMENTS



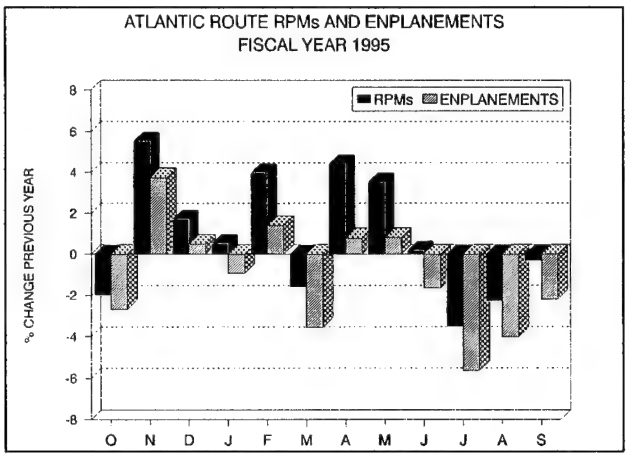
Atlantic Routes

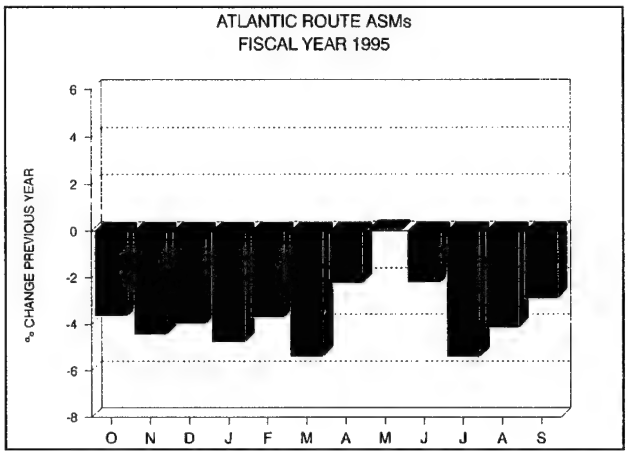
In 1995 transatlantic RPMs were up only 0.3 percent. The number of passengers enplaned totaled 16.2 million, a decrease of 1.6 percent from 16.5 million in 1994. In 1994 RPMs and enplanements increased 4.3 percent and 4.7 percent, respectively. For the period 1985 through 1995 RPMs increased at a yearly rate of 6.0 percent, while enplanements increased about 3.6 percent, and capacity 4.8 percent. Capacity declined 3.6 percent in 1995, which pushed the load factor up to 75.0, 2.9 percentage points higher than 1994.

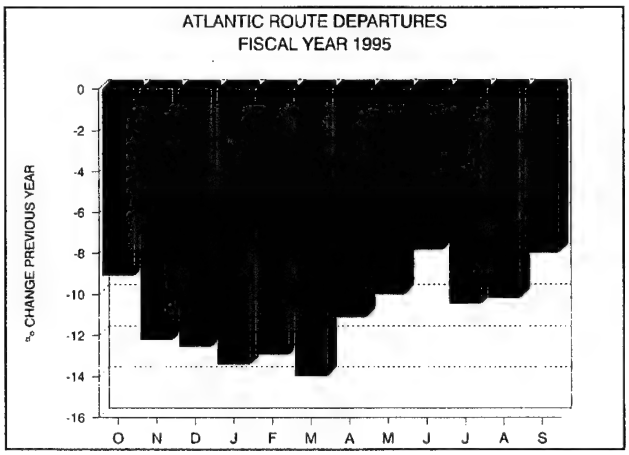
Flat RPMs and declining enplanements on the Atlantic route appear to be the result of the types of alliances negotiated between U.S. carriers and foreign flag carriers. These alliances have led to a significant reduction in U.S. air carrier capacity, the elimination of routes, and a shifting of traffic to allied foreign flag carriers. In 1995, U.S. flag carriers lost 2 percentage points of market share to the foreign flag carriers.

The fall of fares through the early part of the 1990s was reversed in 1995. From 1991 through 1994 real and nominal yields continuously declined at yearly rates of 5.0 percent and 2.4 percent, respectively. In 1995 nominal yield increased 6.4 percent, and real yield climbed 3.4 percent.

According to data filed by operating entity, the U.S. passenger carriers serving the market had an operating profit of $265 million in 1995, making the Atlantic market the least profitable of the international entities.



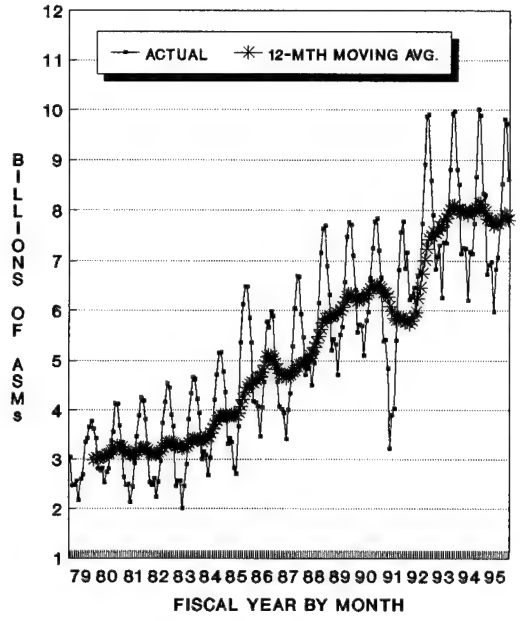




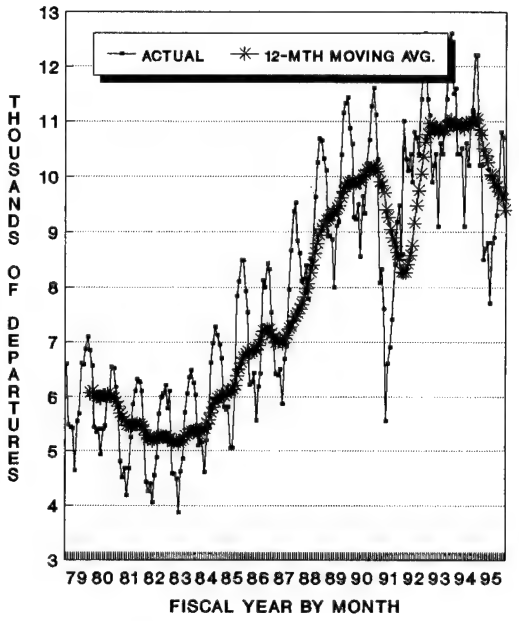
U.S. AIR CARRIER CAPACITY AND TRAFFIC TRENDS

INTERNATIONAL OPERATIONS - ATLANTIC ROUTES

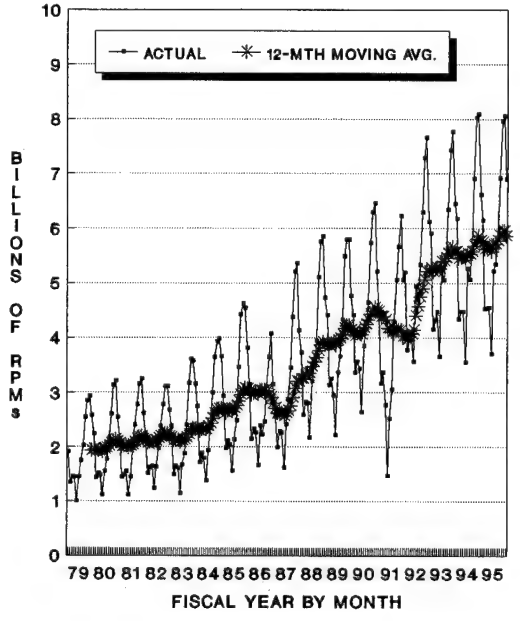
AVAILABLE SEAT MILES



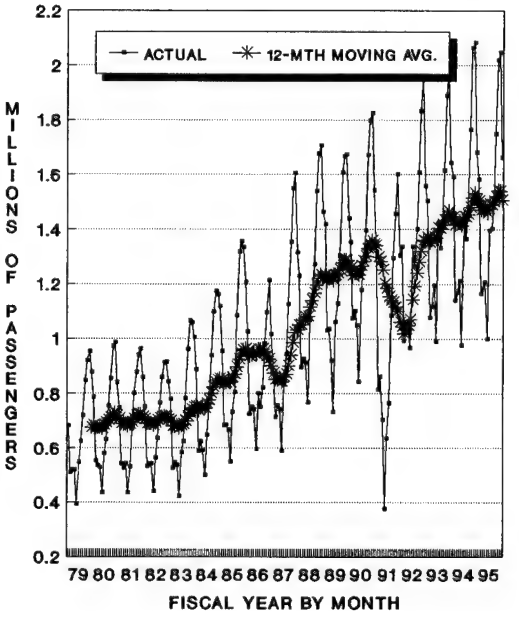
AIRCRAFT DEPARTURES



REVENUE PASSENGER MILES



PASSENGER ENPLANEMENTS



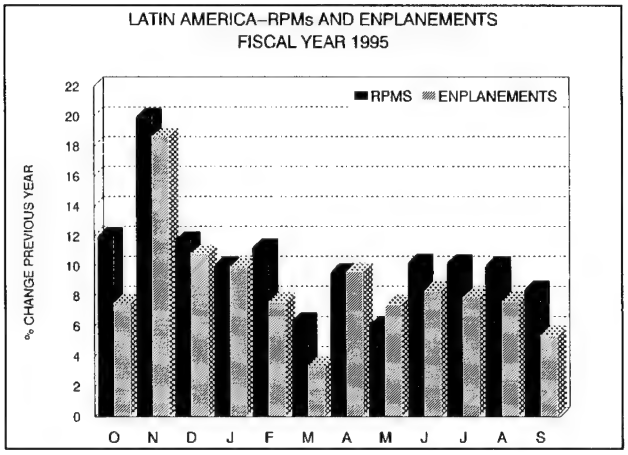
Latin American Routes

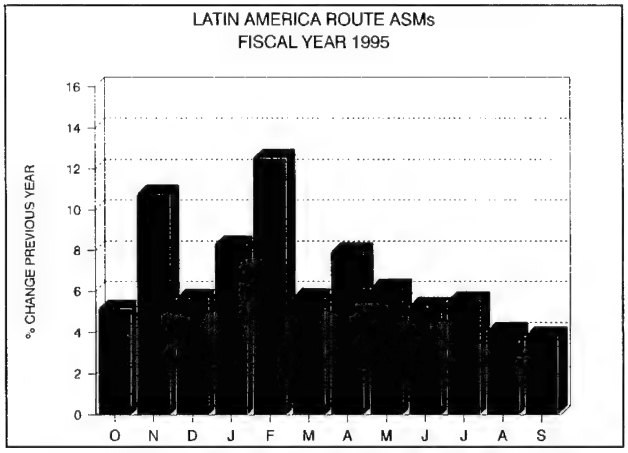
Traffic demand to Latin America (destinations in South America, Central America, Mexico, and the Caribbean) continued to grow at a rapid rate. In 1995 RPMs and passenger enplanements were up 10.4 percent, and 8.6 percent, respectively. For the period 1985 through 1995 RPMs increased at an annual rate of 9.7 percent, while enplanements increased 8.2 percent a year.

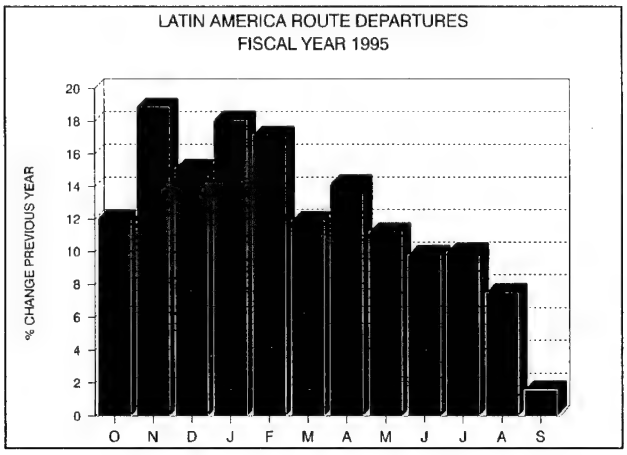
Capacity also expanded in 1995, but at a somewhat slower rate than traffic. ASMs increased 6.6 percent, pushing the load factor up 2.1 percentage points to 63.0 percent, the highest level achieved in the past 25 years. The continued expansion of U.S. carriers into deep South America--Argentina, Brazil and Chile--increased the average trip length by about 2 percent. Since 1990 the average trip length has grown over 10 percent.

The latest data also shows that the scheduled U.S. flag share of the Latin American market continued to expand. In 1994 the U.S. flag share was 62 percent, up from 60 percent in 1993. The strong competitive challenge from the U.S. carriers has encouraged Latin American carriers to privatize. In 1989 most of Latin America's major international carriers were government owned. Today there are only two major state airlines. Clearly, these industry changes will pose additional challenges for the U.S. carriers over the next several years.

Expansion in traffic was largely the result of continued strong economic growth in the United States and Latin America, the devalued peso, and declining fares. In 1995 nominal yield declined about 2.7 percent and yield, adjusted for inflation, fell 5.4 percent.



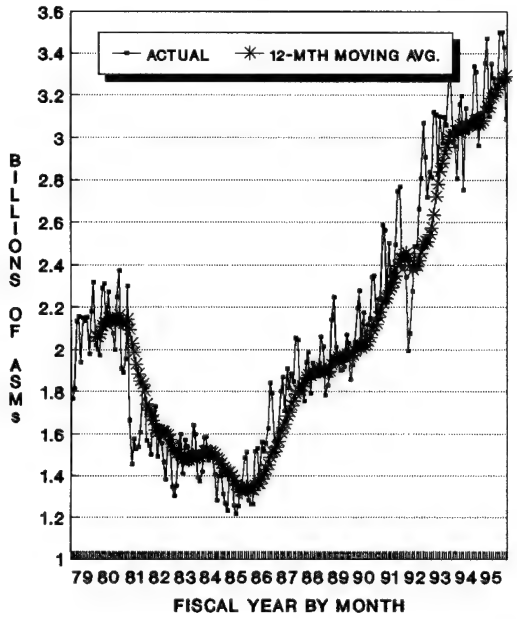




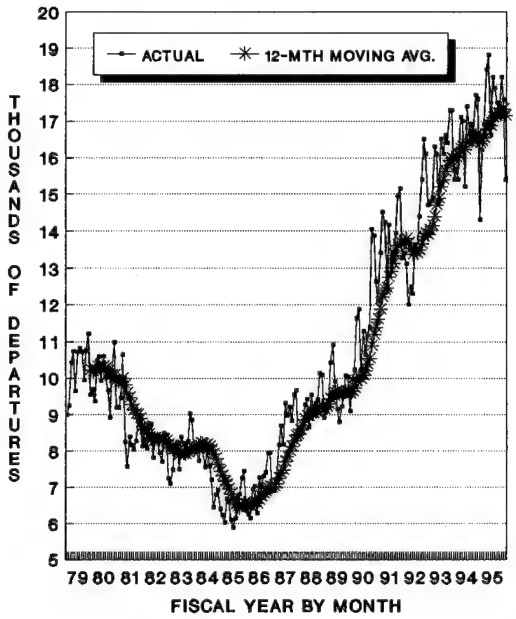
U.S. AIR CARRIER CAPACITY AND TRAFFIC TRENDS

INTERNATIONAL OPERATIONS - LATIN AMERICAN ROUTES

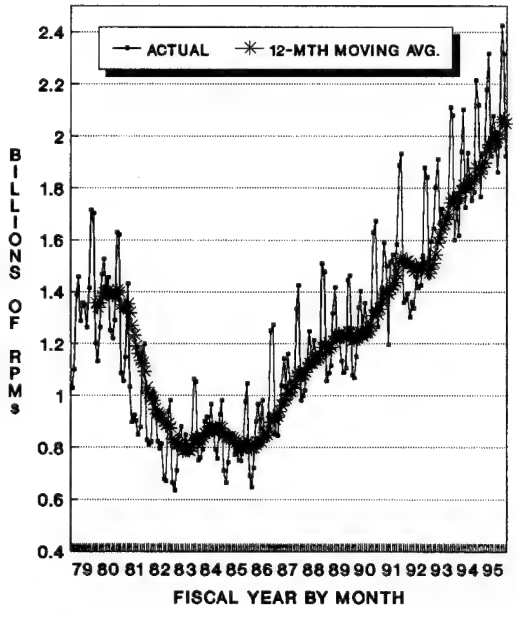
AVAILABLE SEAT MILES



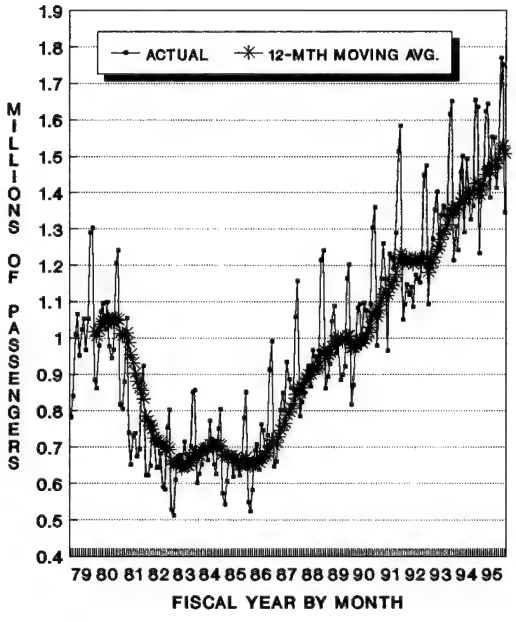
AIRCRAFT DEPARTURES



REVENUE PASSENGER MILES



PASSENGER ENPLANEMENTS



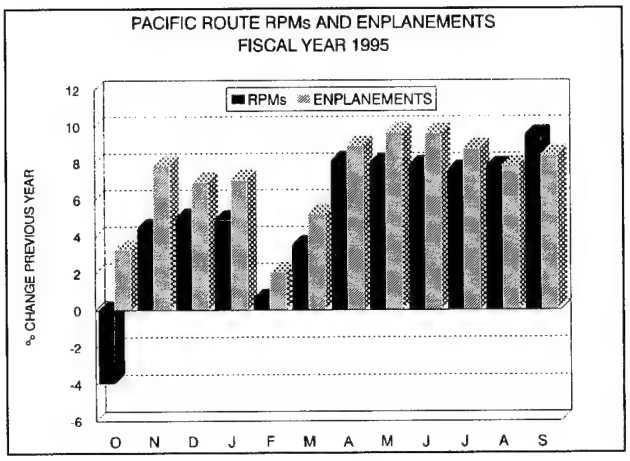
Pacific Routes

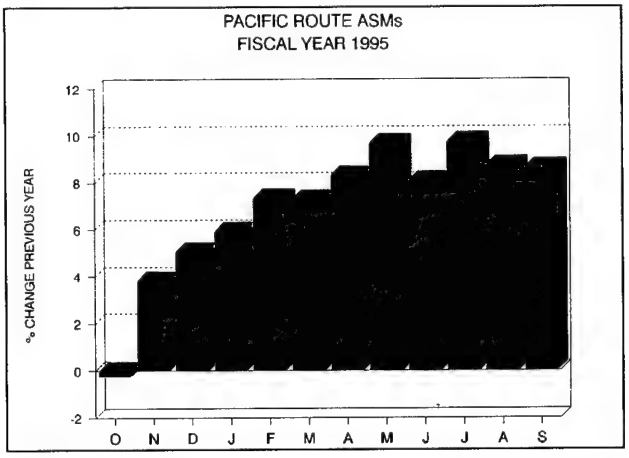
Passenger traffic to Pacific destinations increased in 1995, following declines in 1994 and 1993. Passenger enplanements were up 7.2 percent, and RPMs increased 6.0 percent. During the period 1985 to 1995, RPMs and passenger enplanements increased about 200 percent, expanding at an average annual rate of over 11 percent. In 1995 capacity increased at a faster rate than RPMs (up 6.0 percent), reducing the load factor by 0.6 points to 71.5.

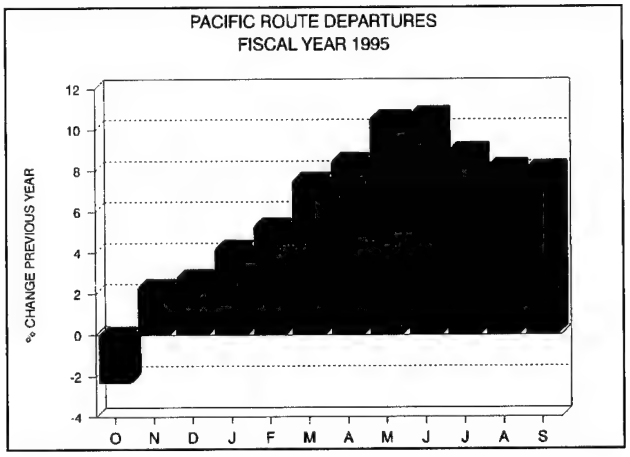
Although the Japanese economy expanded slowly in 1995, the emerging Asian economies continued to experience rapid growth throughout the year. Changes in monetary and fiscal policy instituted in Japan are expected to stimulate strong economic growth during the next several years. In addition, the developing Asian countries should continue to expand at rapid rates. Their share of world GDP is forecast to increase from 18 percent in 1984 to nearly 27 percent by 2000.

Yields continued to fall in the Pacific market. Real yield decreased 7.8 percent in 1995, while current dollar yield decreased 5.2 percent. Since 1993 real yields declined 16 percent, while nominal yields dropped 11 percent.

According to data filed by operating entity, the U.S. passenger carriers serving the market had an operating profit of $666 million in 1995, making the Pacific market the most profitable of the international entities.



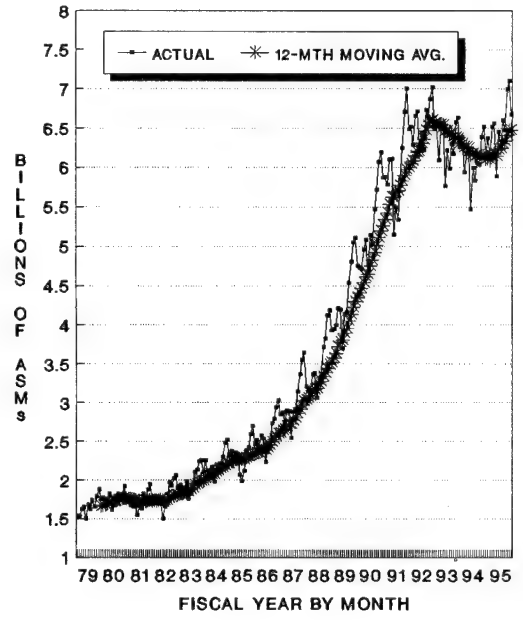




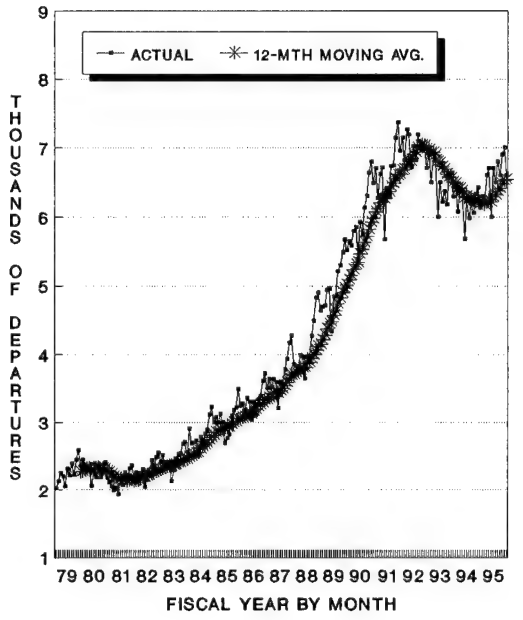
U.S. AIR CARRIER CAPACITY AND TRAFFIC TRENDS

INTERNATIONAL OPERATIONS - PACIFIC ROUTES

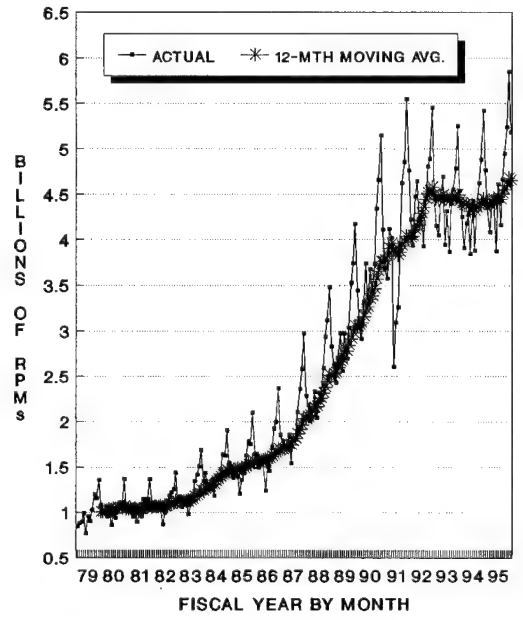
AVAILABLE SEAT MILLES



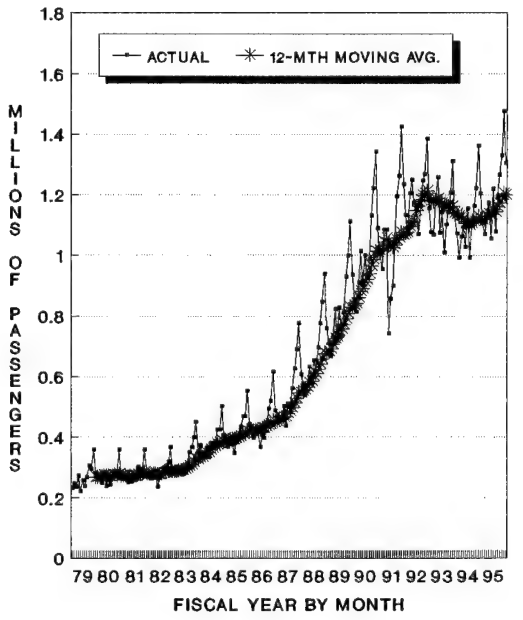
AIRCRAFT DEPARTURES



REVENUE PASSENGER MILES



PASSENGER ENPLANEMENTS



NONSCHEDULED TRAFFIC AND CAPACITY

The number of nonscheduled (charter) passengers flying on U.S. commercial air carriers increased 0.8 percent in 1995, to a total of 11.2 million. Domestic enplanements increased 4.2 percent, while international enplanements declined 4.8 percent.

Nonscheduled revenue passenger miles were up 1.4 percent, and available seat miles increased 3.6 percent. The nonscheduled load factor decreased from 73.2 percent to 71.6 percent, down 1.6 points.

AIR CARGO TRAFFIC

Air cargo revenue ton miles (RTMs) flown by U.S. air carriers reporting on BTS Form 41 totaled 23.2 billion in 1995, up 11.5 percent from 1994. Freight/express RTMs increased 12.5 percent, while mail RTMs increased 4.4 percent Domestic cargo RTMs were up 9.0 percent, while international RTMs increased 14.4 percent.

FORECAST ASSUMPTIONS

The background against which the present forecast is developed involves three major factors--changes in the economy, structural changes in the air carrier industry, and changes in the market for air transportation. The baseline forecasts of commercial air carrier traffic and activity during the next 12-year period (1996 to 2007) are made against an uncertain background, particularly with respect to the industry structure and changes in the market.

THE ECONOMIC OUTLOOK

Chapter II discusses the economic assumptions in detail. In general, continued economic growth along with modest inflation and declining real yields, both domestically and internationally, should provide a strong base for air travel in both the business and leisure travel markets.

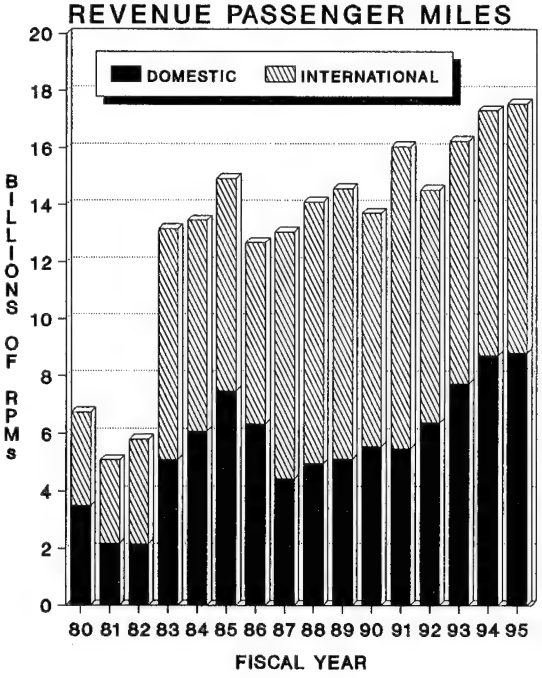
The economy continues to expand, corporate profits are strong, stock market prices are reaching record levels, and the unemployment rate is declining. While downsizing in a number of companies will continue in the near future, total employment is increasing. In addition, corporate travel budgets have expanded, along with improved business profits.

One major concern for the future, however, involves stagnating middle-class incomes and the growing inequality in the distribution of income. Clearly, these trends could significantly impede the growth of future air travel. Whether we look at broad or narrow aggregate measures of income, or evaluate the data by experience, age, or education, the results point in the same direction--erosion of middle-class purchasing power.

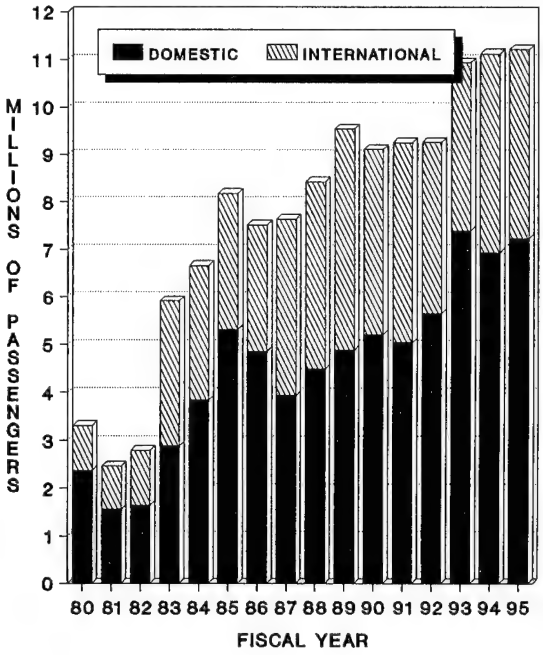
The rate of growth in the Labor Department's Employment Cost Index, which measures worker's earnings (wages and salaries and benefits), has been steadily declining since the early 1980s. For the year ended in September 1995, earnings increased 2.7 percent, down from 3.2 percent for the 12-month period ended September 1994. This is the smallest yearly increase since the series began in CY 1981. The increase for private industry workers was also the smallest on record at 2.6 percent.

U.S. AIR CARRIER NONSCHEDULED TRAFFIC

REVENUE PASSENGER MILES

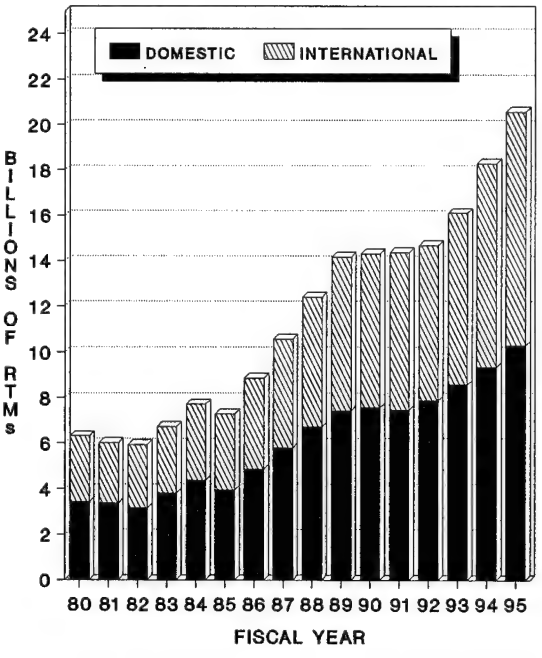


PASSENGER ENPLANEMENTS

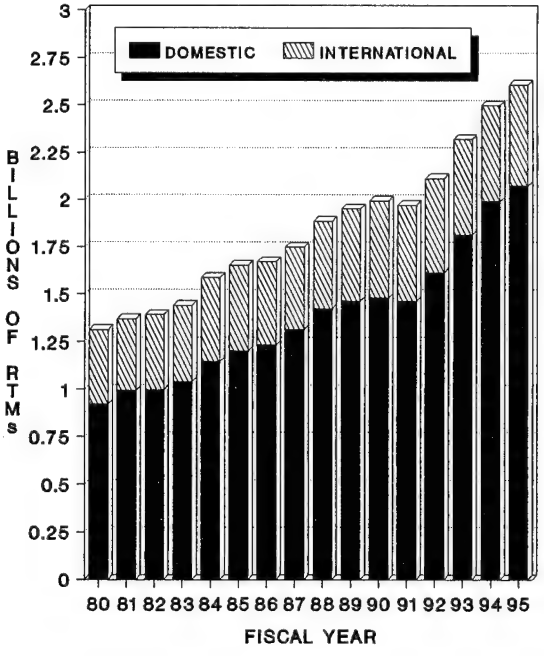


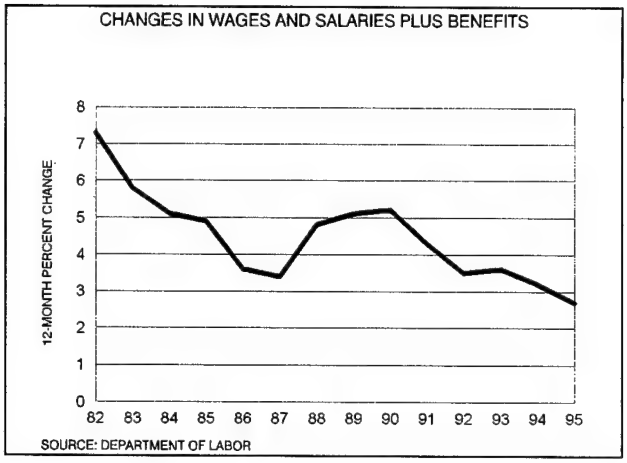
U.S. AIR CARRIER AIR CARGO TON MILES

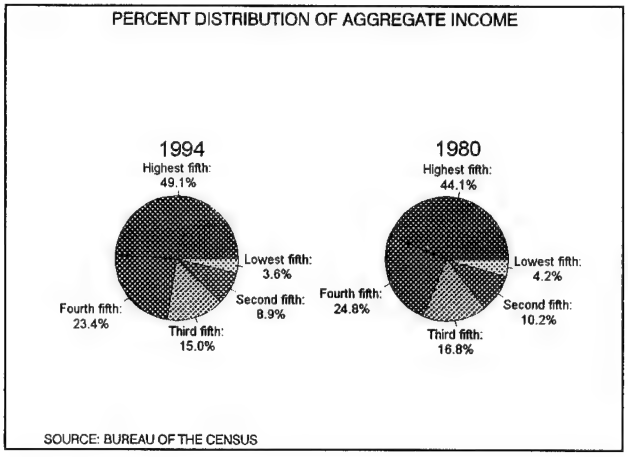
FREIGHT/EXPRESS TON MILES



MAIL TON MILES







In October, the Bureau of the Census reported that the real median income of households in 1994 was virtually unchanged from 1993 levels. Although the most recent recessionary period ended in March 1991, household income in 1994 has not yet recovered to its 1989 pre-recession peak.

Bureau of the Census data also showed that the income distribution is becoming more skewed, and that middle-income families are losing ground. The top fifth of the nation's households received 44.1 percent of total aggregate income in CY 1980. In 1994 the percentage increased to 49.1. During the same period, for the middle-income range, the third and fourth quintile percentages dropped from 16.8 to 15.0 and from 24.8 to 23.4, respectively. Moreover, the richest 5 percent increased their share of total income from 16.5 percent to 21.2 percent.

In summary, the shift in the income distribution is forcing the middle-class to spend an ever increasing share of their earnings on necessities. It has been estimated that this share has increased from 33.4 percent a decade ago to almost 50 percent today. Declining incomes available for discretionary spending--in the long-term--may significantly reduce the demand for pleasure travel.

INDUSTRY STRUCTURE

Two related elements of the industry structure are creating pressures toward lowering costs. First, a wave of entry is under way, fueled in part by the availability of inexpensive aircraft, and partly by the financial success of Southwest Airlines and other new entrants. Some predictions indicate that in 1996, new-entrant carriers--excluding the new low-cost operations of established airlines--could peak at about 6.5 percent of industry market share. New entrants ensure that competitive forces remain strong, and new entrants will remain a factor in the industry.

Second, many high-cost carriers are restructuring in an attempt to reduce their unit costs to the levels achieved by the most efficient airlines. The restructuring includes route realignments, reducing service or withdrawing from unprofitable hubs, and seeking work rule changes and wage concessions. For example, in 1994 Delta announced its "Leadership 7.5" cost-cutting and restructuring program. The goal of the program is to eliminate $2 billion from Delta's yearly costs by 1997. Also, in an attempt to reduce costs, United started a new low-cost no-frills service on the West Coast, and became the world's largest employee owned corporation.

The forecast assumes only limited additional industry concentration. The last merger to occur among the majors was Southwest Airlines with Morris Air in 1994. We expect similar types of mergers to occur over the forecast period, with new viable carriers emerging from the large number of new-entrant carriers. However, a merger between United or American with USAir, or a merger among any other major carriers, could usher in a new wave of consolidations. Clearly, this could significantly alter the structure of the industry, and have a far reaching effect on our forecasts.

The development of "two-tier" airlines such as USAir's low-cost service and United's West Coast shuttle service has created an additional dynamic force in the industry. If these new operations are successful, additional carriers may attempt to lower their costs and increase their product differentiation by moving in this direction.

Another factor that might influence developments among the major carriers is the trend toward employee ownership of majority interests in major carriers. In 1994, United Airlines employees acquired ownership of a majority of the parent firm, UAL Inc. While the immediate impacts of this change in ownership are not clear, there are changes in incentive and employee outlook implied by this type of arrangement. The ramifications are positive for the basic goal of lowering the cost structure of the larger major carriers. Wide extension of employee ownership programs could have a major impact on the operations and cost structure of the industry.

The current system of bilateral agreements, which started back in the 1940s, severely restricts competition in international markets. It is well known that heightened competition can improve efficiency, productivity, and worldwide economic growth. At the present time, the U.S. DOT is attempting to create a more competitive international aviation environment for the U.S. airlines through the development of open-skies agreements.

In February the U.S. signed an open-skies agreement with Canada. The goal of the agreement is full open air service, after a 3-year phase-in period limiting U.S. carriers access to Toronto, and a 2-year phase-in period for Vancouver and Montreal. Estimates of the value of the agreement to the economy have been in the range of $15 billion per year. Agreements have also been reached with nine small European countries, and discussions concerning the liberalization of markets are proceeding with other countries in Europe, Asia,

and Latin America. The expansion of these agreements over the next several years could significantly increase the level of activity of the more efficient U.S. carriers vis-à-vis state-controlled foreign flag carriers.

The industry is expected to continue toward globalization, through code-sharing agreements. The number of transatlantic alliances has recently been increased by Delta's association with Austria, Sabena, and Swissair. Other existing major network alliances include associations between Northwest and KLM, Continental and AirCanada, and United and Lufthansa. While strong international alliances are high on the list of industry needs, the immediate major priorities appear to involve labor issues, ownership, and cost control.

In summary, the industry is dynamic, with new entrants, new low-cost options on the part of existing carriers, and the possibility of a number of mergers and international agreements. All of these forces could increase efficiency and stimulate air travel.

MARKET CHANGES

Perhaps the major reason for the dynamic state of the industry is that attempts to achieve profitability through major pricing initiatives alone have failed. Since competition and market forces are dictating prices, the only approach available for maintaining or improving profit margins is lowering unit costs and increasing productivity. Another important factor is the increasing sensitivity of travelers (both business and leisure) to the cost of the air trip. Thus, costs and fares must be kept low to attract more travelers, especially leisure travelers.

The air travel market is broadly divided into two sectors—business and leisure. We believe that, in the long-term, improvements in communication technologies, such as facsimile machines, computer interfaces, and teleconferencing will have some impact on business travel.

If, in fact, real expenditures on business travel begin to slow or decline, the market will rely more heavily on non-business demand as the communications revolution continues to change the way business is conducted. The future development of video/computer conferencing is another force on the horizon that could change business travel patterns.

The much heralded "information highway" will allow a video and data link between two or more individuals or groups so that video images, voice, and data can be exchanged in real time. This capability may gradually further erode business travel. While it will always be necessary to conduct "inperson" meetings, innovative new technologies such as videoconferencing could likely substitute for many of today's business trips.

In summary, leisure travel, which is highly price sensitive, will be more important in the future. And as businesses demand more efficiency and their alternatives to air travel increase, they will also become more sensitive to relative price changes.

It seems an inescapable conclusion that cost efficiencies must be achieved to keep fares low, create stable demand growth, and provide the industry with acceptable rates of return on capital. These are the fundamental assumptions of the forecasts that follow.

MODELING RPMS

The model used for developing FAA commercial air carrier forecasts relies upon a system of deterministic and statistical equations. The pivotal equations of the system relate domestic and international (by region) RPMs to two primary independent variables--GDP and yield, both adjusted for inflation. The domestic RPMs equation is estimated using two-stage least squares, and the international equation is derived using single-equation techniques. Projections of the variables, GDP and yield, for developing the forecasts, are discussed in Chapter II and in the following sections.

Although it is aggregate RPMs that we forecast for both domestic and international routes, it would be preferable to use different models to estimate the two distinct components of each market--business and personal travel. A further refinement would distinguish the long-haul from the short-haul market. This approach would provide important information for developing public policy and would most likely improve the accuracy of the forecasts. Clearly, these markets are affected by different sets of variables, and adjust at different rates to them.

For example, most experts in the industry would agree that the price elasticity of demand for business travel differs markedly from the price elasticity of demand for pleasure travel. Furthermore, theory would suggest that industry profits should be a factor in determining business travel, and that some measure of personal or family income is a variable affecting pleasure travel. At this time, however, the lack of an adequate data base on RPMs subdivided into these four components, precludes the development of accurate forecasts for each market at the national level. Additional research and data collection are necessary to advance this approach.

During the pre-deregulation era, prices were determined by the now defunct Civil Aeronautics Board, and generally did not respond to shifts in demand and/or supply. Therefore, single-equation least squares methods were adequate for forecasting domestic RPMs. Market forces quickly took hold following deregulation in 1978. To adjust for the jointly dependent variables in demand and supply equations, two-stage least squares was used to estimate the demand equation for the period 1979 through 1995. The primary exogenous variable specified to estimate the independent variable, real yield, was operating costs per available seat mile.

A gravity model was used to estimate international RPMs by region. The model relates RPMs of the region to the region's GDP and U.S. GDP. If multicollinearity presented a problem, only one measure of income was used to estimate the equation and predict RPMs. Various attempts to include fare levels, adjusted for inflation, in the estimating equation were unsuccessful. In general, the variable tended to be statistically insignificant and/or have the wrong sign. Again, as with the income variables, the problem was multicollinearity. Various attempts to adjust for this particular dilemma were also unsuccessful.

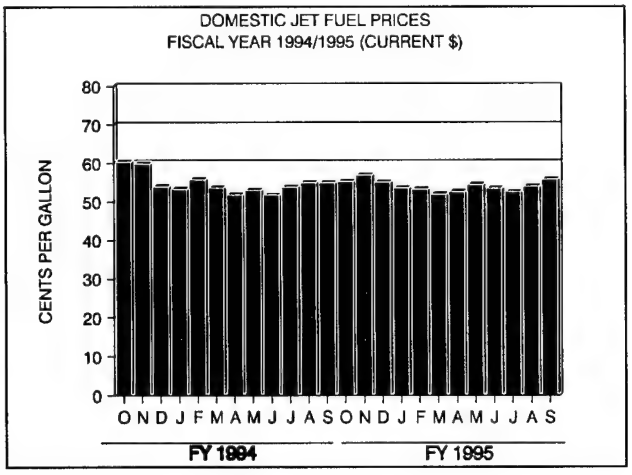
Other measures of income and demographic variables were tested in the aggregate domestic RPM equation to determine if we could improve the fit and/or adjust for collinearity problems. The other measures of income were personal income per capita and median family income. These variables along with population and yield were used to estimate the parameters of the domestic RPM equation. The results from both equations using either measure of income were consistent with the use of GDP as the measure of economic activity. Further, the forecasts of aviation activity using the two different formulations were not significantly different from those constructed using only GDP and yield.

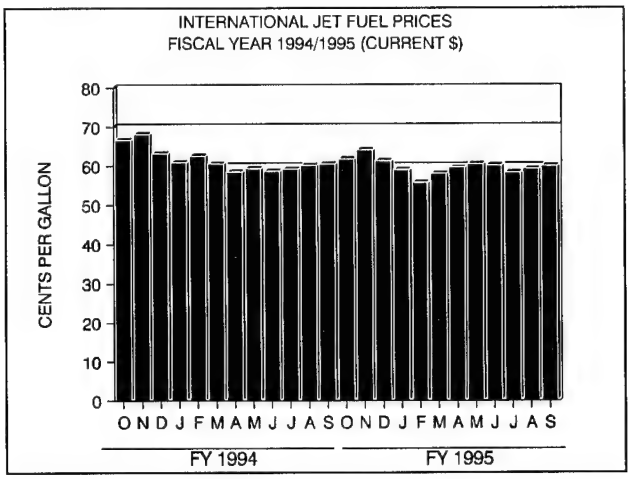
OTHER VARIABLES AND ASSUMPTIONS

In addition to the industry and economic variables discussed above, FAA's forecast approach involves specific review of independent variables that influence the forecast. The principal variables are the cost of jet fuel for air carriers and the yields that we expect air carriers to obtain.

JET FUEL PRICES

During 1995, jet fuel prices generally declined, as stability returned to the jet fuel market. Fuel costs averaged 55.6 cents a gallon in 1995, with the average 54.1 cents for the domestic purchases and 59.8 cents for international. The system price was 1.6 percent lower than the average paid in 1994.





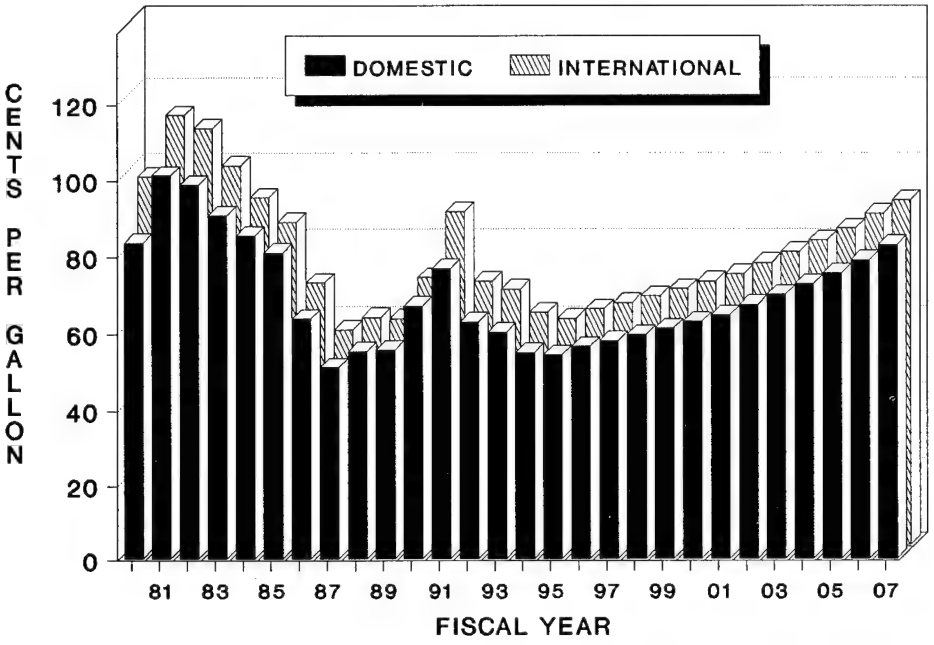
Changes in jet fuel prices can have a major impact on air carrier financial performance. Barring any unforeseen fuel supply disruptions or major new oil discoveries, jet fuel costs are expected to increase gradually in real terms during the 12-year forecast period.

System jet fuel constant dollar (1995$) costs are expected to increase only 1.4 percent to 56.4 cents in 1996, then to remain relatively stable, increasing only 0.6 percent a year for the remainder of the forecast period, reaching 59.4 cents in 2007. Jet fuel price stability will be an aid to the industry in achieving financial stability in the future. The forecast of fuel prices is shown in Chapter IX, Tables 6 through 8.

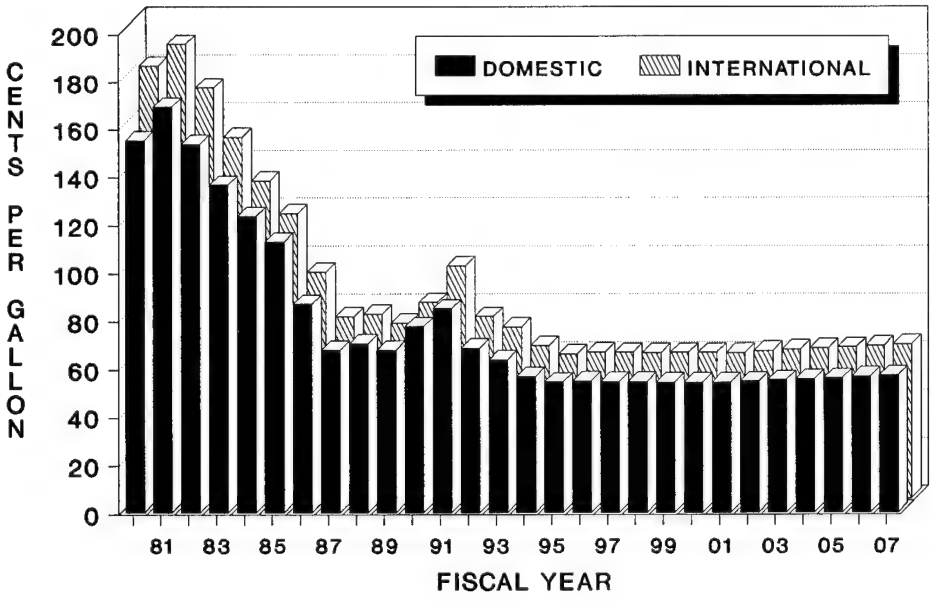
PASSENGER YIELDS

There has been a long-term downward trend in airline passenger yields during the modern history of transportation. In terms of real yield, fares in the years 1969 to 1971 averaged 21.91 cents per passenger mile (1995$). There has been a steady decrease in real yield over the years, with the causes of the decrease changing, but always with the result that fares have moved downward. By 1995 the average yield had fallen to 12.73 cents per mile.

JET FUEL PRICES - CURRENT DOLLARS



JET FUEL PRICES
CONSTANT (FY-1995) DOLLARS



In the 1970s the dominant reason for the decrease was the introduction of large numbers of more efficient jet aircraft into the fleets operated by air carriers. In the 1980s the continued decrease was fueled by the deflationary impact deregulation had on the industry. Not only were airlines able to rationalize their route structures, but some labor costs decreased.

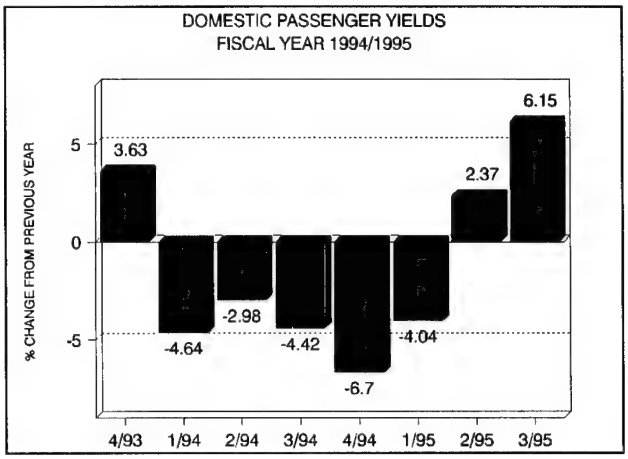
In the 1990s, financial weakness in the industry, coupled with high levels of capacity relative to demand, and the growth of new-entrant low-cost carriers has brought about intense fare competition. The highly competitive markets are pushing relatively high-cost carriers to restructure and increase productivity. We expect this trend to continue for the next several years.

Lower airline cost structures and competition from new-entrant carriers should continue to have a significant depressing effect on real yields through 1998. For the remainder of the forecast period we expect real yields to continue to decline, but at a slower pace. Domestic yields are expected to fall at a much faster pace than international yields.

On a system basis, real yield is expected to decrease 1.0 percent in 1996, 2.7 percent in 1997, and 2.5 percent in 1998. For the entire forecast period real yield is expected to drop from 12.73 cents in 1995 to 11.04 cents in 2007, declining about 1.2 percent a year.

Domestic Passenger Yields

Following declines of nominal yield for five consecutive quarters (first quarter 1994 through first quarter 1995), domestic yield strongly rebounded in the second and third quarters of 1995. Overall, for 1995, current dollar yield (13.31 cents) fell only 0.4 percent, while real yield declined 3.2 percent. In 1994 nominal yield declined 2.2 percent, and real yield dropped 4.6 percent.



From 1985 to 1995, domestic real yield decreased 2.6 percent per year. For the decade before, the decline was 1.9 percent per year. Over the forecast period, we expect that competitive forces and industry improvements in efficiency and productivity will continue to push real yields down. For the forecast period, we project a 1.3 percent annual decrease in real yield. Current dollar or nominal yield will increase at an average of 1.7 percent per year, reaching 16.22 cents in 2007.

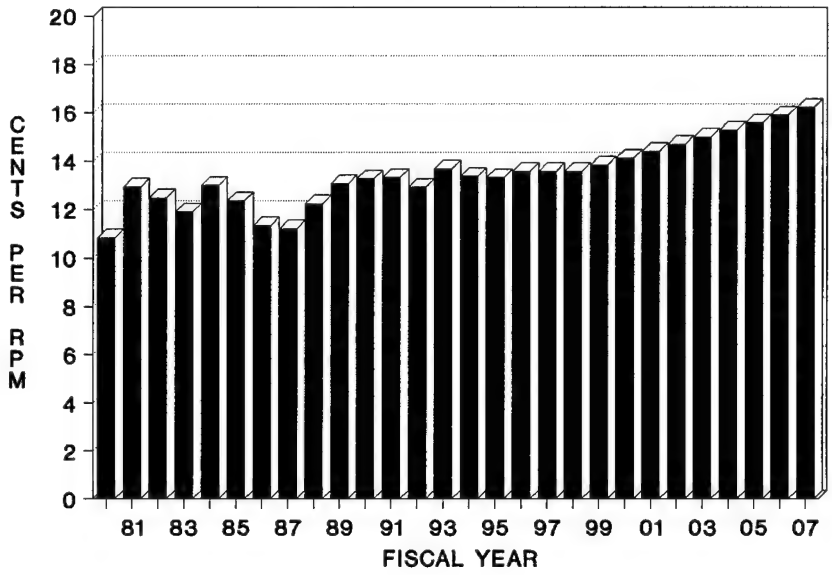
International Passenger Yields

The setting of international fare levels differs from the domestic process in that many international fares must meet International Air Transport Association (IATA) guidelines and/or be approved by foreign governments.

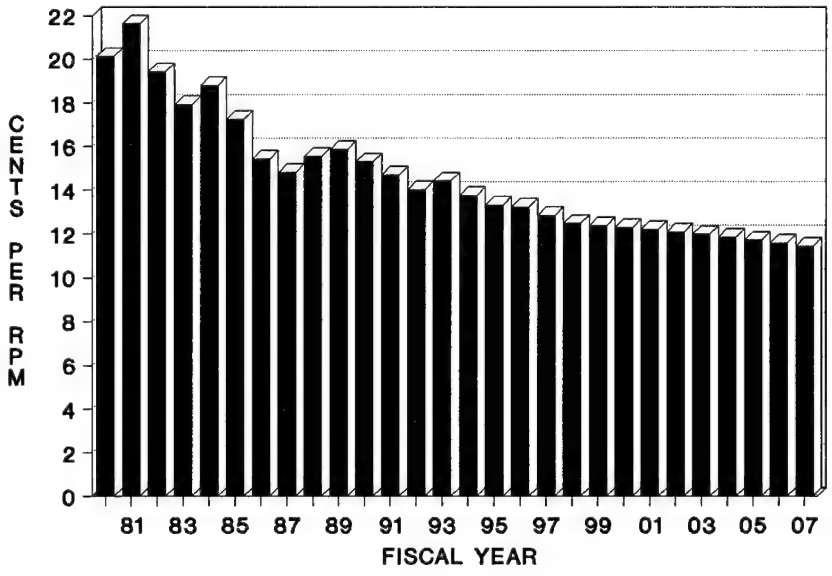
There has been a long-term decrease in international real yield similar to that in the domestic industry (and for similar reasons). Real international yield decreased an average of

U.S COMMERCIAL AIR CARRIERS
DOMESTIC PASSENGER YIELD

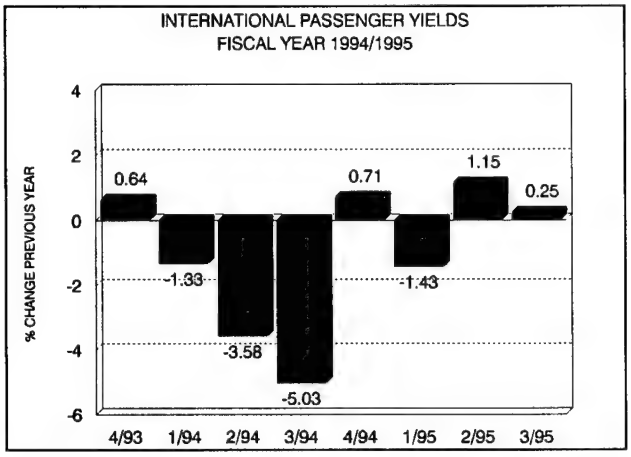
CURRENT DOLLARS



CONSTANT (FY-1995) DOLLARS



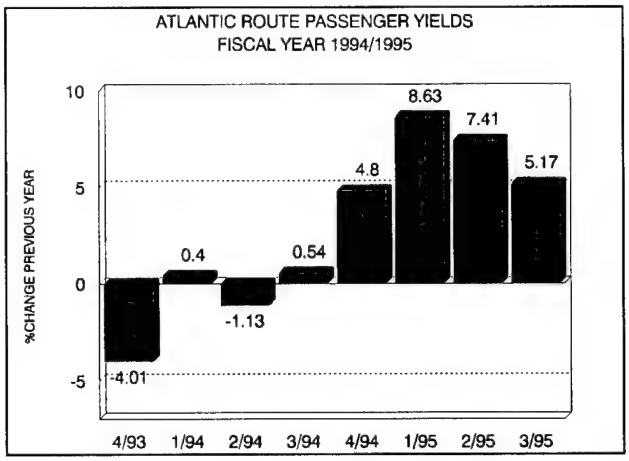
1.5 percent per year from 1985 to 1995 and an average of 4.2 percent per year in the decade before that. Real yields in the international market are generally lower than in the domestic market, primarily because operating costs tend to be lower in these markets. These lower costs are associated with longer average stage length internationally and with the use of larger aircraft, which tend to have lower seat mile costs.



We assume that the international markets have additional efficiencies to allow continued decreases in real yield in the future. These efficiencies could be achieved through expansion of deregulation, privatizing of carriers, and more open-skies agreements. The total international real yield is expected to decrease 2.0 percent in 1996, then to decrease about 0.8 percent per year through the forecast period. Current dollar yield is expected to increase 2.1 percent yearly, from 11.17 cents in 1995 to 14.39 cents in 2007.

Atlantic Routes

In 1995, the major U.S. carriers on the transatlantic routes were American, Delta, and United. Current dollar yield (9.88 cents) increased 6.4 percent, while real yield in the market increased 3.4 percent, following a drop of 3.4 percent in 1994.



Real yield in the Atlantic segment of the international market is expected to increase in 1996 by 1.0 percent. For the remainder of the forecast period, real yield is expected to decline at an average yearly rate of 0.3 percent. Nominal yields are expected to increase at an annual rate of 2.6 percent , reaching 13.46 cents in 2007.

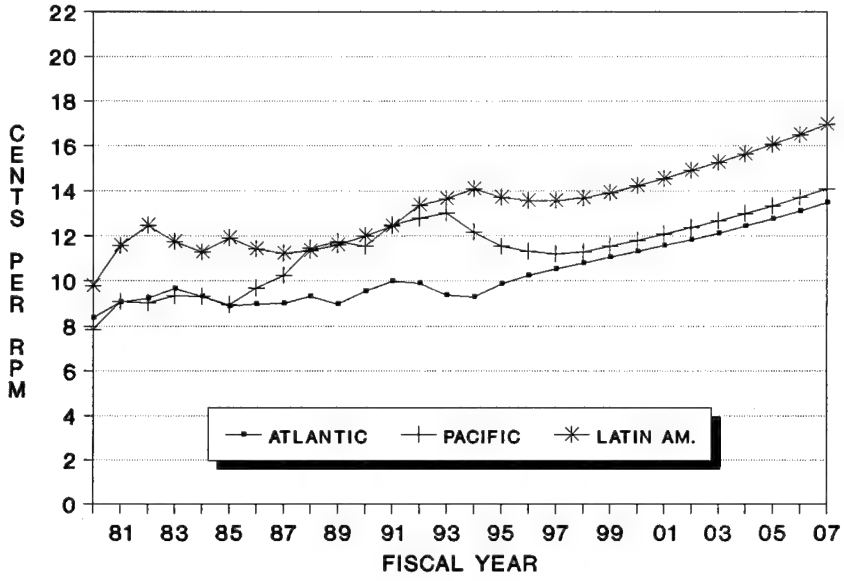
Latin American Routes

In 1995 Latin American current dollar yield (13.70 cents) decreased 2.7 percent, while real yield fell 5.4 percent. In 1994 nominal yield and real yield increased 3.1 percent and 0.6 percent, respectively. For the period 1985 through 1995 real yield declined at an annual rate of 1.9 percent. We expect real yield to continue to decline through the forecast period at a rate of 1.1 percent a year. Nominal yields are forecast to increase at an annual rate of 1.8 percent a year, reaching 16.96 cents in 2007.

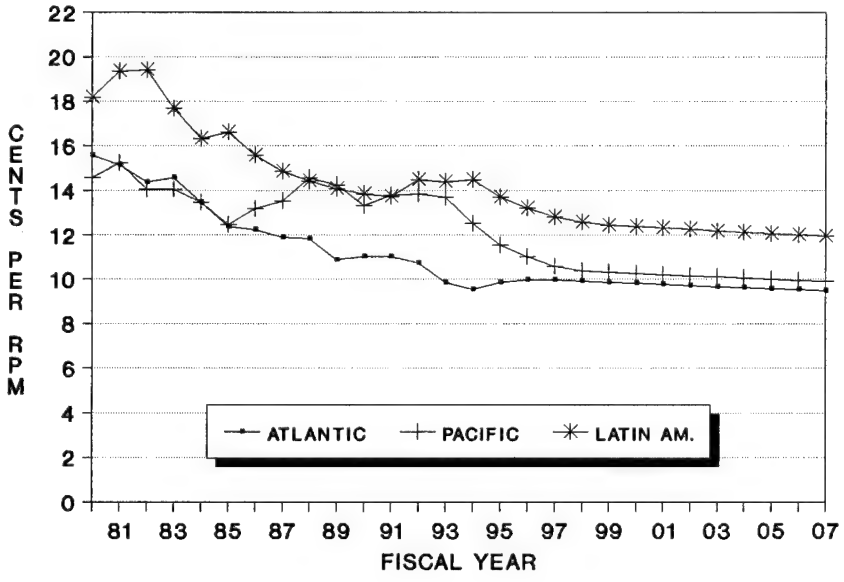
U.S COMMERCIAL AIR CARRIERS

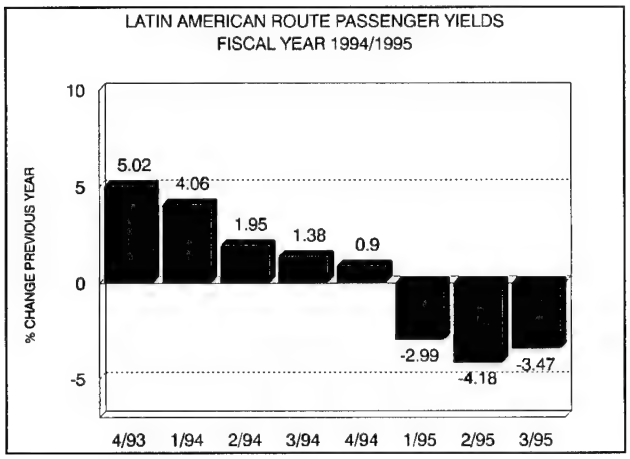
INTERNATIONAL PASSENGER YIELD

CURRENT DOLLARS



CONSTANT (FY-1995) DOLLARS

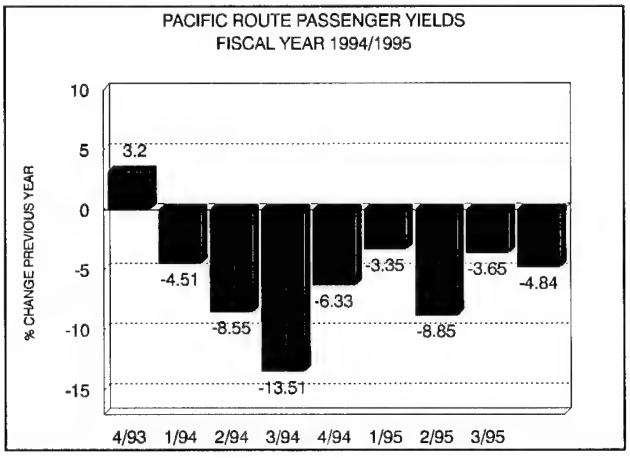




Pacific Routes

Current dollar yield (11.55) in the Pacific markets decreased 5.2 percent in 1995, and real yields declined 7.8 percent. The forecast period is expected to show real yield declining at an average annual rate of 1.3 percent. Nominal yield is forecast to grow an average of 1.7 percent per year during the same period, increasing from 11.55 cents in 1995 to 14.07 cents in 2007.

The individual market yield projections are shown in Chapter IX, Table 9.



PASSENGER TRIP LENGTH

The average system passenger trip length (986 miles) increased by 2.1 miles in 1995, largely the result of increases in the trip lengths in the domestic, Atlantic, and Latin American markets. The domestic passenger trip length increased about 5 miles, primarily due to some of the majors eliminating short-haul markets and/or turning these markets over to their code-sharing regional partners. In 1995, seven out of the nine majors increased their trip lengths, while the average domestic trip length for all majors increased more than 7 miles.

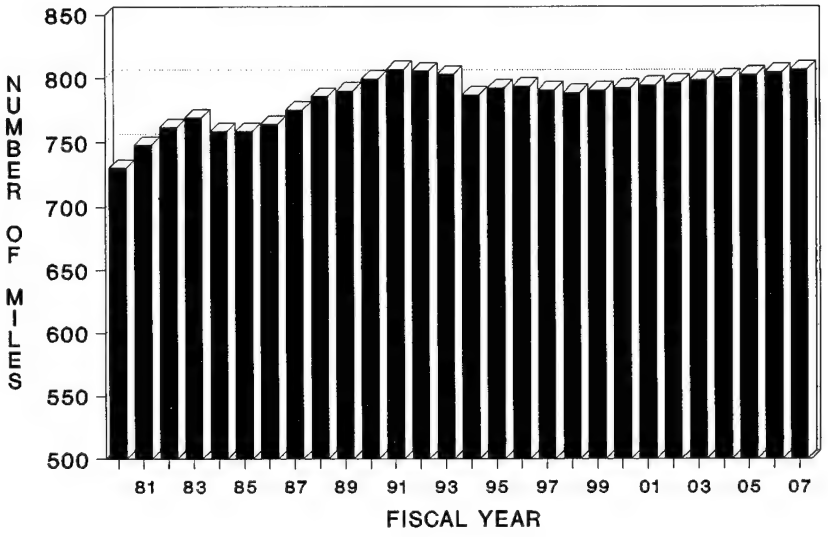
Average system trip length is forecast to increase by 2.8 miles in 1996, decline through 1998, and then increase by about 5.1 miles per year for the remainder of the forecast period, continuing the historical upward trend. The trends are shown graphically and in Tables 6 through 8 in Chapter IX.

In 1996 domestic trip length is forecast to increase due to the continued realignment of routes by the majors. In 1997 and 1998 trip lengths should decline as short-haul market activity continues to expand, fueled by the new-entrant low-cost carriers. For the period 1999 through 2007, we expect average trip length to increase as growth in the short-haul market slows.

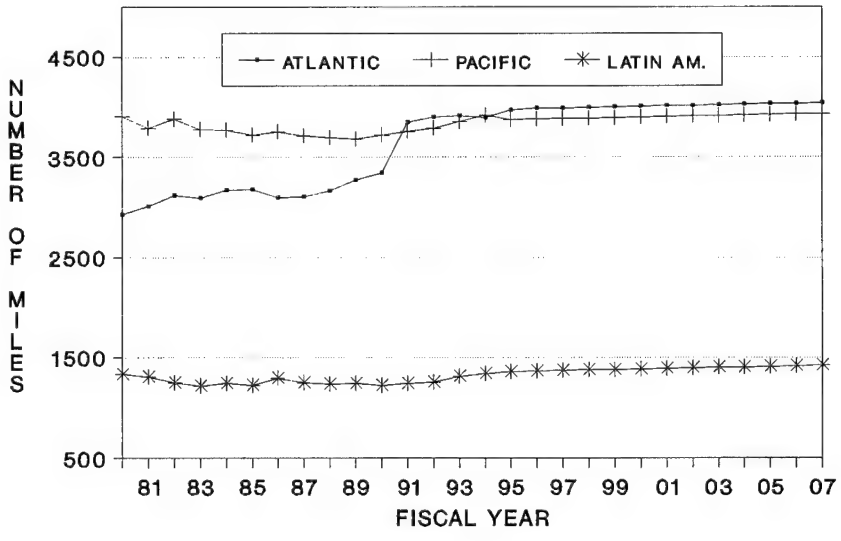
Domestic trip length is expected to increase from 791.3 miles in 1995 to 792.0 in 1996, and then decline to 789.0 in 1998. For the period 1999 through 2007, we expect the rapid growth of the short-haul market to slow relative to the growth of the long-haul market. Consequently, during this period, the domestic trip length is expected to increase by about 2 miles a year.

U.S COMMERCIAL AIR CARRIERS
PASSENGER TRIP LENGTH

DOMESTIC



INTERNATIONAL



The trip lengths in individual international markets are expected to increase:

- Atlantic trip length increases from 3,970 miles in 1995 to 4,040 miles in 2007.
- Latin American trip length increases from 1,361 miles in 1995 to 1,421 miles in 2007.
- Pacific trip length increases from 3,872 miles in 1995 to 3,932 miles in 2007.

AVERAGE AIRCRAFT SIZE

Between 1978 and 1983, the average system seating capacity of aircraft used by U.S. commercial air carriers increased by almost 20 seats (from 147.2 to 167.1 seats). Between 1983 and 1992, however, the average seating capacity of the U.S. fleet remained surprisingly stable, standing at 168.3 seats in 1992, up only 1.2 seats from 1983.

For the domestic fleet between 1983 and 1992, the average number of seats was approximately 152. Further, the average yearly change was only 0.6 seats. From 1993 through 1995, domestic seating capacity fell 5.3 seats--the largest decline observed over the past 20 years. The large increase in domestic short-haul traffic by carriers using smaller aircraft (Valujet, Reno Air, etc.) has been only partly responsible for this phenomenon. The most likely cause of the big decline in the average number of seats is the increased number of regionals reporting on Form 41.

To test this supposition, we estimated the number of seats for the domestic fleet for the period 1992 through 1995 without seven of the more active regional carriers, whose average seating capacity is approximately 30. These carriers generally operate in short-haul markets with turboprop aircraft. For the period, excluding the seven regional carriers, average seating capacity increased by about four seats a year.

We expect that continued strong growth in the short-haul markets, along with more regionals reporting on Form 41, will reduce the average seating capacity through 1998.

Legislation requires stage-2 aircraft to be removed from the U.S. fleet by January 1, 2000. This legislation should result in the retirement of significant numbers of the smaller stage-2 fleet throughout the forecast period. This, added to the fact that the aircraft being delivered to the U.S. fleet are generally larger than the ones being replaced (the exception being the Fokker 100), should result in an increase in the average seating capacity of the air carrier fleet for the period 1999 through 2007.

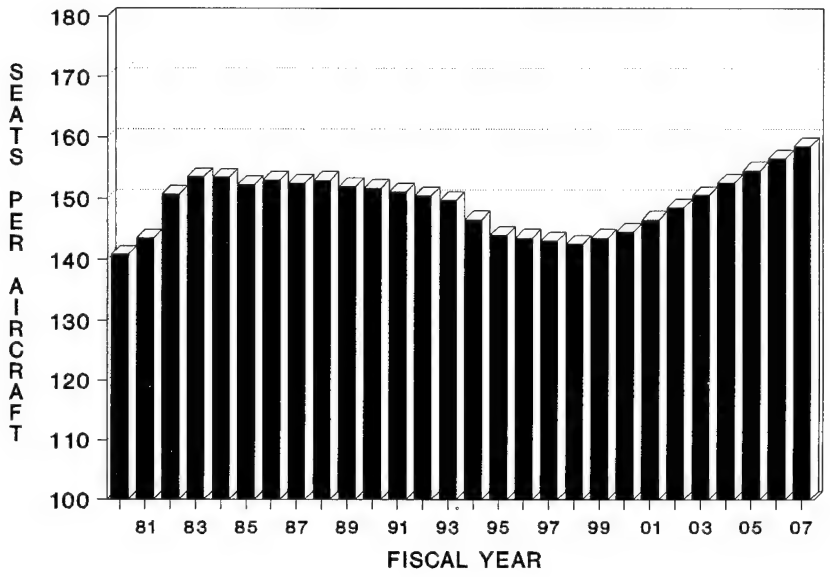
The forecast assumes that the average seating capacity of the U.S. commercial airline fleet will decrease through 1998, and then increase by an average of about two seats per year for the remainder of the forecast period. The history and forecast of average seat size is shown graphically and in Tables 6 through 9 of Chapter IX.

PASSENGER LOAD FACTOR

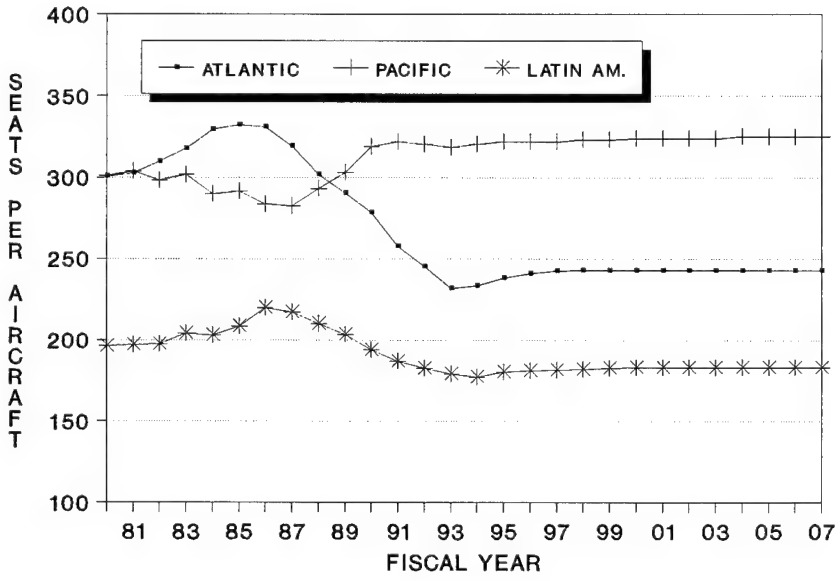
U.S. scheduled air carriers recorded a system-wide load factor of 66.8 percent in 1995, up significantly from the previous peak of 65.7 reached in 1994. The major unknown that will influence the near-term load factor is the capacity plans of the major carriers. Most carriers have made dramatic changes over the last few years in their equipment plans, particularly with respect to delivery of equipment during the next several years.

U.S COMMERCIAL AIR CARRIERS
SEATS PER AIRCRAFT

DOMESTIC SERVICE



INTERNATIONAL SERVICE



Deliveries less retirements define the fleet changes for airlines.

One must consider load factor assumptions in the context of demand and capacity constraints. The forecast assumes a 3.7 percent increase in traffic in 1996 and a 5.4 percent increase in 1997. Normally, it is assumed that available seat miles will be adjusted in response to changes in demand, thereby resulting in a "normal" load factor. However, if capacity does not go up as quickly, as many think, load factor may increase.

Looking at 1996, if capacity increases 3.2 percent from 1995 and RPMs increase 3.7 percent, the resulting load factor will be 67.0 percent. If capacity grows at a slower rate than traffic, carriers could possibly increase their fares (or greatly limit space for discounted traffic). The result would be fewer RPMs than forecast but greater profits.

We expect the domestic industry in 1996 to push its load factor up to 65.5 by limiting the growth in capacity relative to traffic. This result represents the most likely outcome because competitive conditions over the long-run will make it difficult for carriers to raise real fares.

There are two ways to provide additional capacity for the domestic market beyond what is "planned" today. First, aircraft and crew utilization has some slack in it. Second, there are a number of "parked" aircraft, and some carriers may return some of this capacity to the market. We believe that available seat miles will increase in response to increased demand.

Domestic Passenger Load Factor

U.S. scheduled domestic air carriers had a load factor of 65.2 percent in 1995, up 1.0 point from 1994. Domestic load factors have varied very little over the period 1985 through 1993, ranging from a low of 60.3 percent in 1986 to 61.3 percent in 1993.

Capacity increased 4.1 percent in 1995, and is expected to increase next year by 2.8 percent. The load factor should increase to 65.5 percent, equal to the highest ever in the domestic market. Beyond 1996 we expect that present fleet plans will provide capacity levels that should keep the load factor relatively high at 66.0 percent.

International Passenger Load Factor

The international load factor edged up to 71.4 percent in 1995, up from 70.0 percent in 1994--the highest annual load factor in history. The previous high of 69.2 percent was achieved in 1990.

The same forces that affect domestic capacity (fleet plans and break-even load factors) affect international capacity. As in domestic markets, US airlines are capable of adjusting their international capacity levels to changing levels of demand. The international load factor is forecast to remain relatively stable during the forecast period, increasing from 71.4 percent in 1995 to 71.6 percent in 2007.

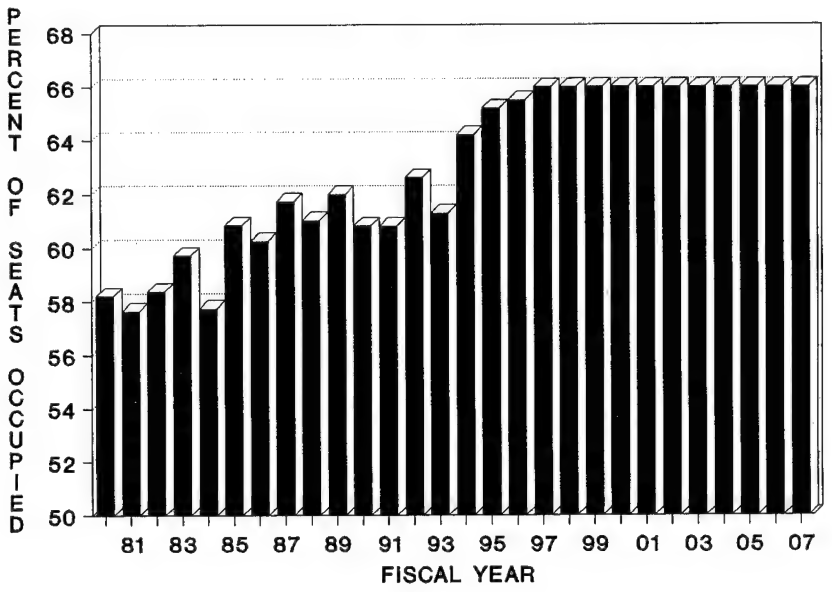
The expectations for the individual market segments are as follows:

- In the Atlantic, the 1995 load factor was 75.0 percent, up 2.9 points over 1994. We expect it to average 75.0 percent for the forecast period.

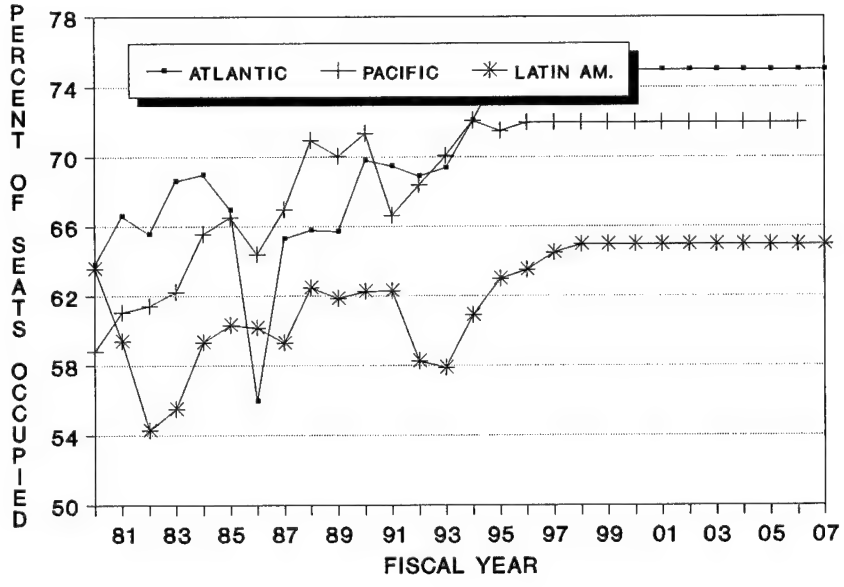
- In Latin America, load factor increased to 63.0 percent in 1995, up 2.1 points from

U.S COMMERCIAL AIR CARRIERS
PASSENGER LOAD FACTOR

DOMESTIC



INTERNATIONAL



1994. We forecast that it will increase gradually over the forecast period to 65.0 percent in 2007.

- In the Pacific, load factor decreased to 71.5 percent in 1995, down 0.6 points from 1994. We forecast the load factor to level off at 72.0 percent for the period 1996 through 2007.

AIR CARRIER FORECASTS

The forecasts of air carrier demand are based on a specific set of assumptions concerning economic growth in the United States and abroad, the political environment in which they will take place, and changes in industry structure. Clearly, there are many uncertainties in all these areas that could significantly alter the short- and/or long-term environment, and cause the outcomes to be significantly different from those forecast. Some of the developments that could alter the forecasts include:

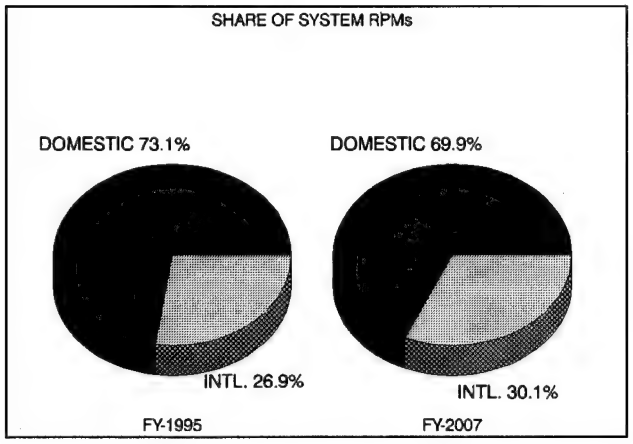
- the strength and duration of the current U.S. economic recovery;
- the number of business cycles that occur over the forecast period;
- future oil price shocks;
- the strength and duration of economic growth in Europe, Asia, and Latin America;
- structural changes in the international markets that affect US carrier shares;
- how far carriers can reduce unit costs;
- how fast yields decline due to increased competition and cost reductions;
- when and if the industry reaches equilibrium; and
- how many carriers survive.

In addition, the network of bilateral pacts that the United States currently has in place in Europe, the Far East, and South America could significantly inhibit the expansion plans (current and future) of air carriers operating in these international regions and restrain traffic growth. On the other hand, the move towards deregulation, privatization of national carriers, and expansion of open-skies agreements could result in significantly greater traffic growth.

REVENUE PASSENGER MILES

U.S. scheduled air carriers recorded a total of 536.6 billion revenue passenger miles in 1995, up 5.2 percent. System passenger miles are forecast to increase 3.7 percent in 1996 and 5.4 percent in 1997, then taper off through the balance of the forecast period. Average annual growth in system RPMs is expected to be 4.2 percent, reaching 884 billion in 2007.

International growth is anticipated to be somewhat higher than domestic growth, with the average annual international growth in RPMs during the 12-year forecast period being 5.3 percent, compared to 3.8 percent for the domestic market. In the year 2007, the international share of the U.S. carriers' system RPMs is expected to be 30.2 percent, up from 26.9 percent in 1995, and 21.1 percent in 1980.



Domestic Revenue Passenger Miles

Scheduled domestic revenue passenger miles totaled 392.4 billion in 1995, up 5.7 percent from 1994. Domestic traffic is projected to increase 3.3 percent in 1996 with RPMs totaling 405.3 billion. The relatively strong traffic growth in 1995 was largely influenced by growth of the U.S. general economy and continued growth of the new-entrant low-cost carriers in the short-haul markets.

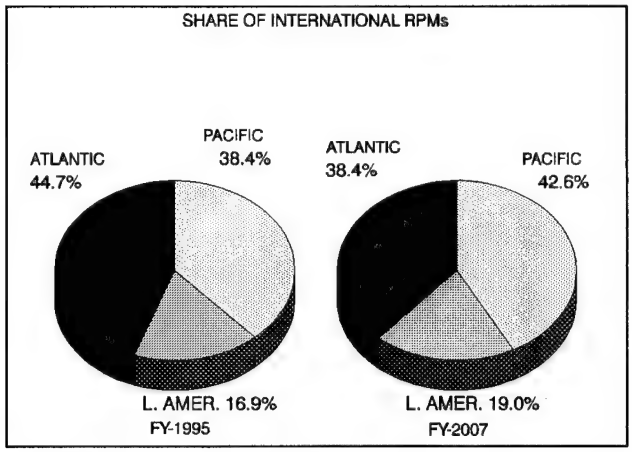
In 1997 and 1998 traffic is expected to increase 5.2 percent a year. Traffic is then expected to taper gradually over the balance of the forecast period. The average annual increase in domestic RPMs is estimated at 3.8 percent, reaching 617 billion in 2007.

International Revenue Passenger Miles

International RPMs grew 4.1 percent in 1995. The growth was uneven, however, with increases of 10.4 percent in Latin American markets, 6.0 percent in Pacific markets, and only 0.3 percent in Atlantic markets.

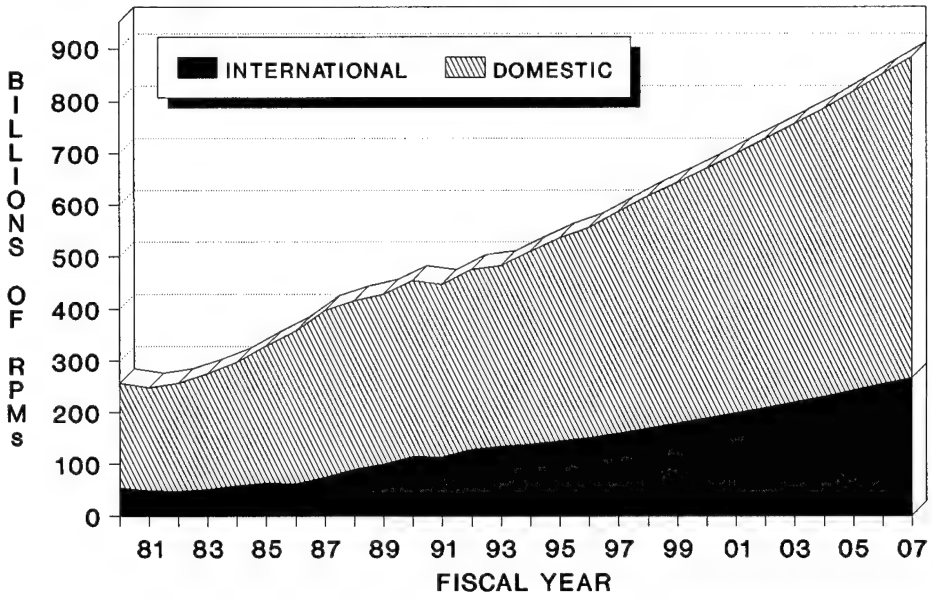
Total RPMs in international markets are expected to approximately double during the forecast period, increasing from 144.2 billion in 1995 to 266.6 billion in 2007. The average annual growth rate over this period is 5.3 percent. This is 1.5 percentage points higher than the domestic growth rate and continues a trend that will see a greater percentage of system RPMs in the international market.

International RPMs are forecast to increase to 150.9 billion in 1996, up 4.6 percent, and to 160.2 billion in 1997, up 6.1 percent.

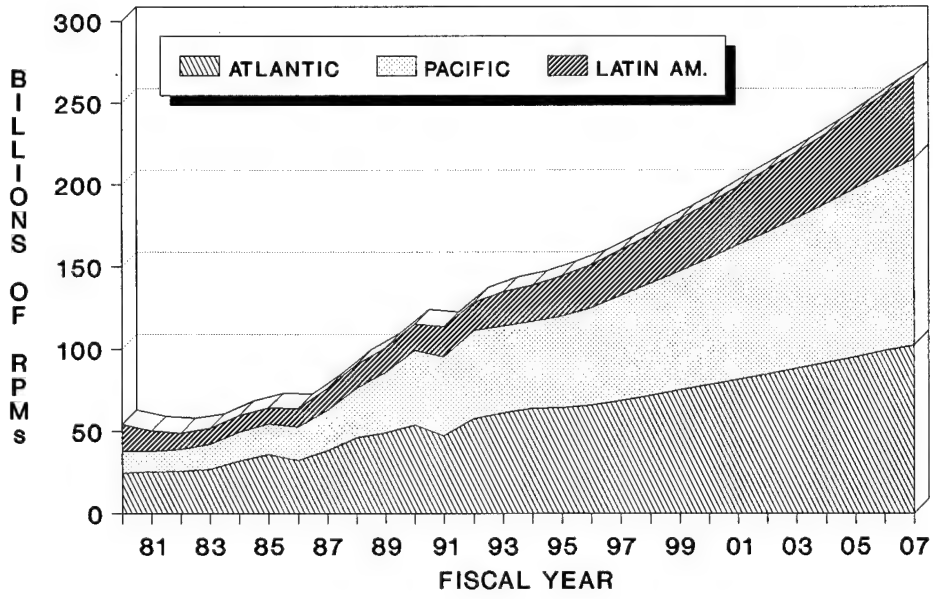


The relative importance of international market areas is expected to change during the forecast period, with Atlantic RPMs decreasing from 44.7 percent of the total in 1995 to 38.4 percent in 2007. The Pacific RPMs share increases from 38.4 percent in 1995 to 42.6 percent in 2007. Latin American RPMs increase from 16.9 percent in 1995 to 19.0 percent in 2007. These changes result from the differing market growth rates anticipated during the forecast period.

U.S. COMMERCIAL AIR CARRIERS
SCHEDULED REVENUE PASSENGER MILES



SCHEDULED INTERNATIONAL RPMS
BY TRAVEL REGION



The projected RPMs for the Atlantic, Pacific, and Latin American markets are:

- Atlantic RPMs increase from 64.4 billion in 1995 to 102.3 billion in 2007, up 3.9 percent a year.
- Latin American RPMs increase from 24.3 billion in 1995 to 50.7 billion in 2007, up 6.3 percent a year.
- Pacific RPMs increase from 55.5 billion in 1995 to 113.6 billion in 2007, up 6.2 percent a year.

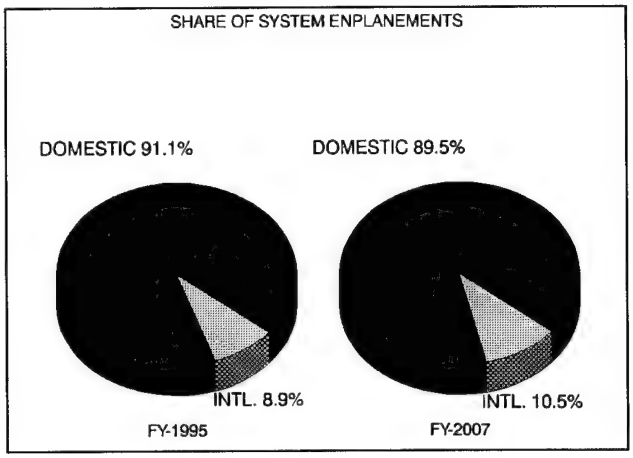
PASSENGER ENPLANEMENTS

In 1995, U.S. scheduled air carriers enplaned a total of 544.3 million passengers, up 5.0 percent. The continued growth of the U.S. economy along with domestic short-haul activity, is expected to result in strong traffic growth in 1996, 1997, and 1998. The market is expected to stabilize after 1998 with slower growth expected throughout the forecast period. System passenger enplanements are forecast to increase to 562.7 million in 1996, up 3.4 percent, with increases of 5.6 percent in 1997, and 5.5 percent in 1998. Thereafter, the growth rate will taper off. Overall average annual growth of enplanements for the 12-year forecast period is expected to be 3.9 percent.

Enplanements grow at a slightly lower rate than RPMs because of the gradual increase in average trip length. In 1995, 91.1 percent of enplanements were domestic. This will drop to 89.5 percent in 2007.

Domestic Passenger Enplanements

U.S. scheduled domestic air carriers enplaned a total of 495.9 million passengers in 1995, up 5.1 percent. Domestic passenger enplanements are forecast to increase to 511.8 million in 1996, up 3.2 percent.



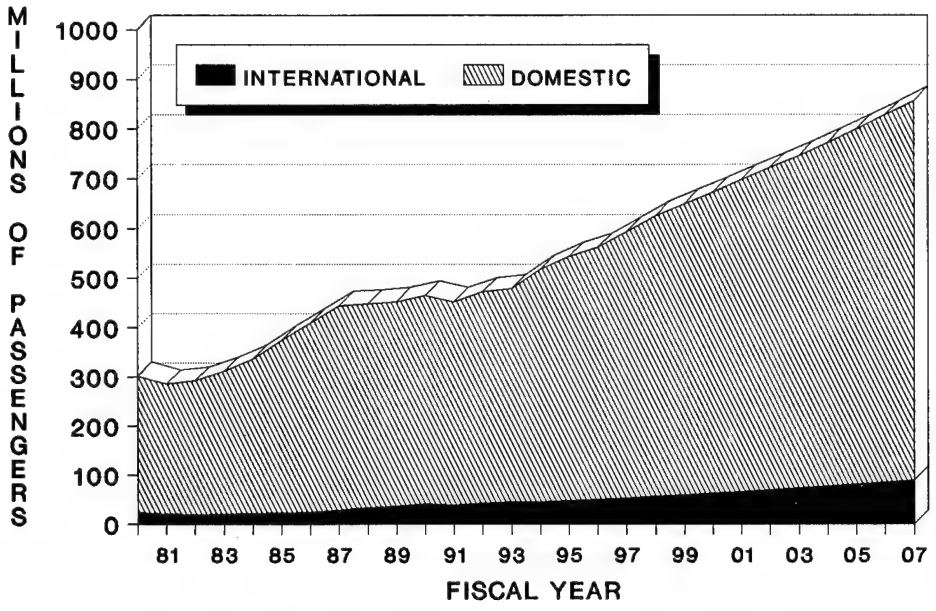
Over the forecast period, domestic passenger enplanements are expected to increase gradually at about the same rate as RPMs.

The growth in domestic enplanements is expected to average 3.7 percent annually during the 12-year forecast period, with the number of domestic enplanements reaching 766.8 million in 2007.

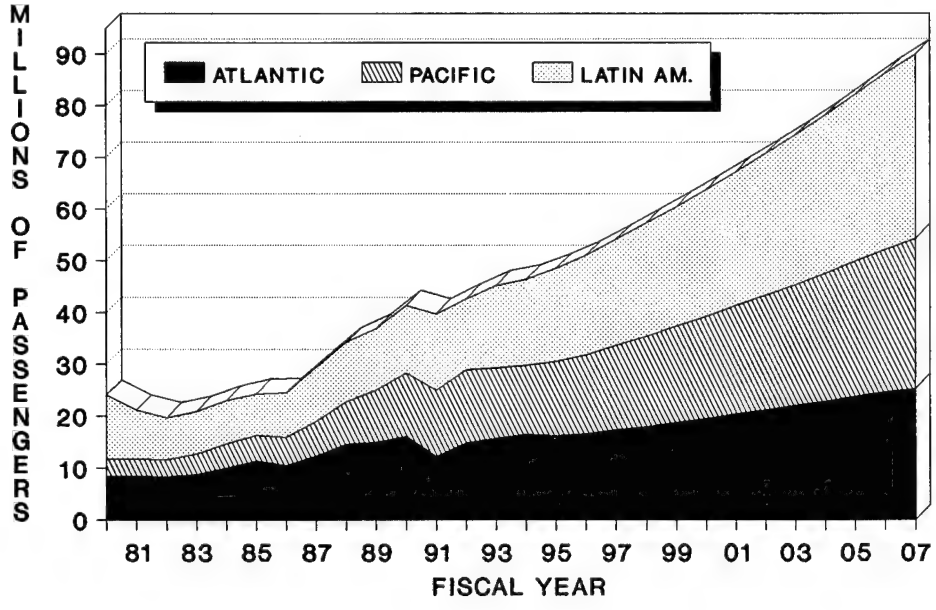
International Passenger Enplanements

A total of 48.4 million passengers were enplaned by U.S. scheduled international airlines in 1995, up 4.6 percent. International enplanements are forecast to increase to 50.9 million in 1995, up 5.1 percent.

U.S. COMMERCIAL AIR CARRIERS
SCHEDULED PASSENGER ENPLANEMENTS



SCHEDULED INTERNATIONAL ENPLANEMENTS
BY TRAVEL REGIONS



Enplanements will grow at about the same rate as RPMs. The average annual rate of growth during the forecast period will be 5.3 percent. Projected enplanements for the individual international markets are:

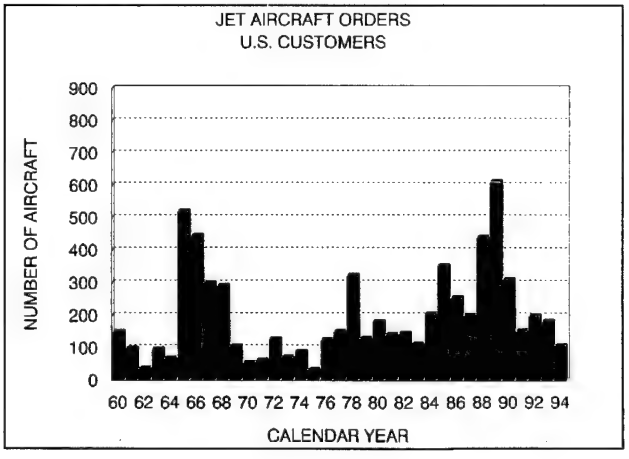
- Atlantic enplanements increase from 16.2 million in 1995 to 25.3 million in 2007, up 3.8 percent annually.

- Latin American enplanements increase from 17.9 million in 1995 to 35.7 million in 2007, up 5.9 percent annually.

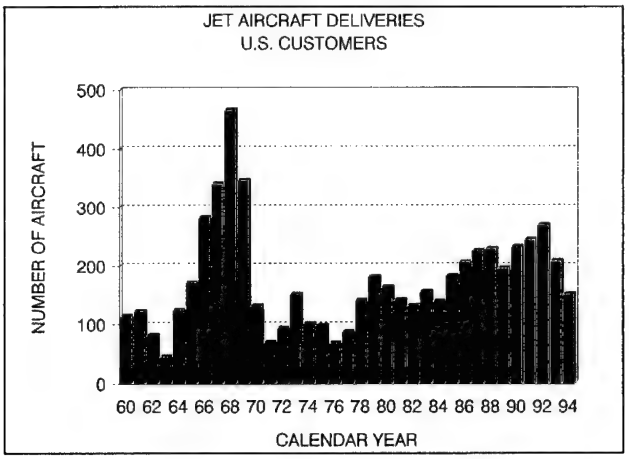
- Pacific enplanements increase from 14.3 million in 1995 to 28.9 million in 2007, up 6.0 percent annually.

AIR CARRIER FLEET

World air carriers placed orders for an estimated 490 large jet aircraft with U.S. and foreign aircraft manufacturers during CY 1995, 54.0 percent more orders than in 1994. Of this total, 338 (69.0 percent) were for two engine narrowbody (B-737, B-757, MD-80, MD-90, A-320/321 and F-100) aircraft.



Aircraft manufacturers delivered approximately 449 large jet aircraft worldwide in 1995. Of this total, 287 (63.9 percent) were two-engine narrowbody aircraft, and 90 (20.0 percent) were for two-engine widebody aircraft.



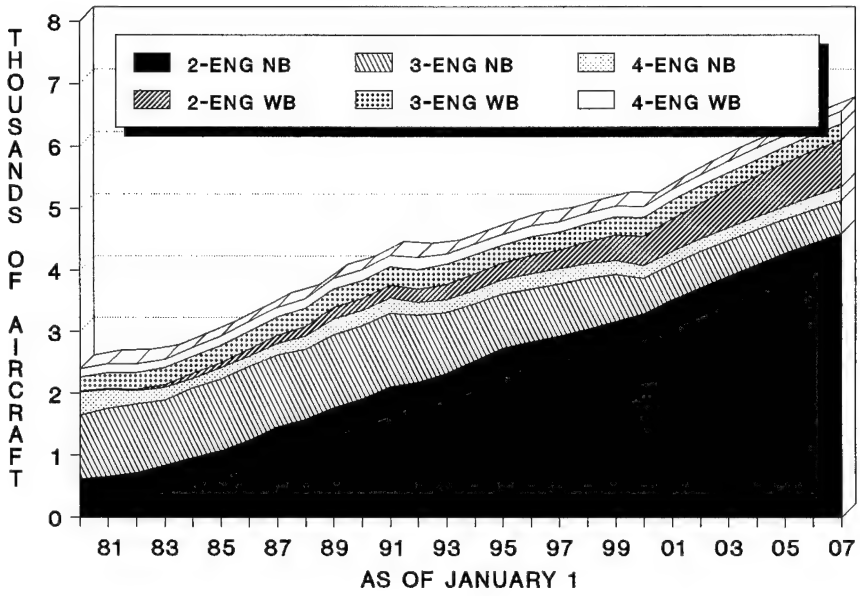
Looking at the year ending December 1995, the fleet for U.S. air carriers increased by an estimated 138 aircraft, an increase of 3.0 percent. This compares to 1994, when the fleet increased by 156 aircraft. Fleet changes in 1995 were similar to changes that occurred in 1994, namely a steep increase in stage-3 aircraft (up 270 aircraft or 10.1 percent) and a decline in stage-2 aircraft (down 130 aircraft or 7.4 percent).

This forecast assumes a 25-year life cycle for aircraft, but also follows guidelines of the national noise legislation. In particular, stage-2 aircraft will be withdrawn from the U.S. fleet by the end of 1999, although waivers could possibly delay some withdrawals until the end of 2003. At the end of 1995, there were approximately 1,633 stage-2 aircraft (34.5 percent of the total fleet) remaining in the U.S. air carrier jet fleet. The forecast reflects a decreasing number of stage-2 aircraft in the fleet in each year, declining to zero in 2000.

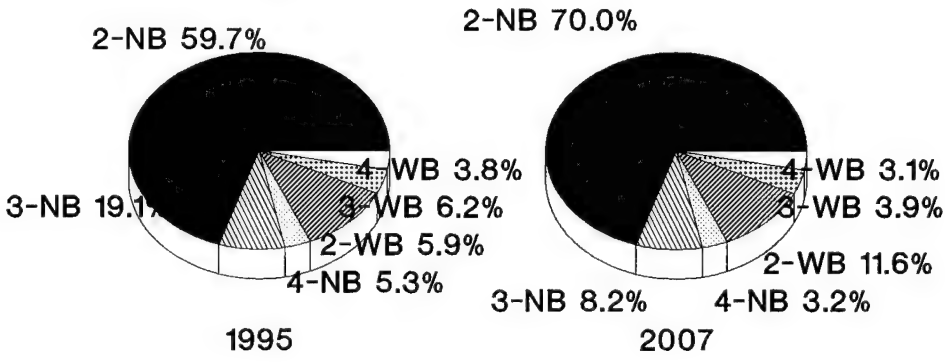
Based on the backlog of aircraft orders and the projections of air carrier traffic, seat capacity, load factors, and fleet requirements, the U.S. commercial air carrier fleet is projected to

U.S. COMMERCIAL AIR CARRIERS

LARGE JET AIRCRAFT



PERCENT BY AIRCRAFT TYPE



increase from an inventory of 4,852 aircraft on January 1, 1995, to 6,564 aircraft by January 1, 2007. This involves a net addition to the fleet (after retirements of obsolete aircraft) of approximately 165 aircraft annually (3.0 percent annually).

By far the largest increase, in terms of number of aircraft, is projected to occur in the two-engine narrowbody aircraft category, which is expected to grow by an average of 155 aircraft (4.2 percent) annually. By the year 2007, two-engine narrowbody aircraft are expected to total 4,594 units and to account for 70.0 percent of the fleet, up from 60.0 percent in 1995.

The number of three-engine narrowbody (B-727) aircraft is expected to decline from 877 aircraft (19.1 percent of fleet) in 1995 to 538 (8.2 percent of fleet) in the year 2007. All of these must be modified by the year 2000 to satisfy noise regulations. The number of four-engine narrowbody aircraft will also decline, from 241 aircraft in 1995 to 210 aircraft in 2007.

Widebody aircraft, which accounted for 15.9 percent of the fleet in 1995, are expected to account for 18.6 percent in 2007. The fleet of two-engine widebody aircraft (A-300/310/319/330, B-767, and B-777) are the fastest growing of the widebody group. These are expected to increase by an average of 39 aircraft per year (8.2 percent), from 269 aircraft in 1995 to 760 aircraft in 2007.

Four-engine widebody (B-747 and A-340) aircraft are forecast to increase from 176 aircraft in 1995 to 205 aircraft in 2007, an annual increase that averages 1.3 percent. The three-engine widebody fleet (MD-11, DC-10, and L-1011) is projected to decrease over the forecast period, from 283 aircraft in 1995 to 257 in 2007, an average annual decline of 0.8 percent. The forecast assumes that when additions to capacity are needed, the carriers will add smaller aircraft, and not bring back the three-engine widebody aircraft.

AIRBORNE HOURS

U.S. commercial air carriers flew an estimated total of 11.9 million hours in 1995, up from 11.5 million hours in 1994. Two aircraft categories accounted for over three-fourths of total airborne hours: two-engine narrowbody aircraft (63.9 percent) and three-engine narrowbody (13.0 percent). In 2007, the number of hours is forecast to increase to 18.2 million, an average annual increase of 3.6 percent.

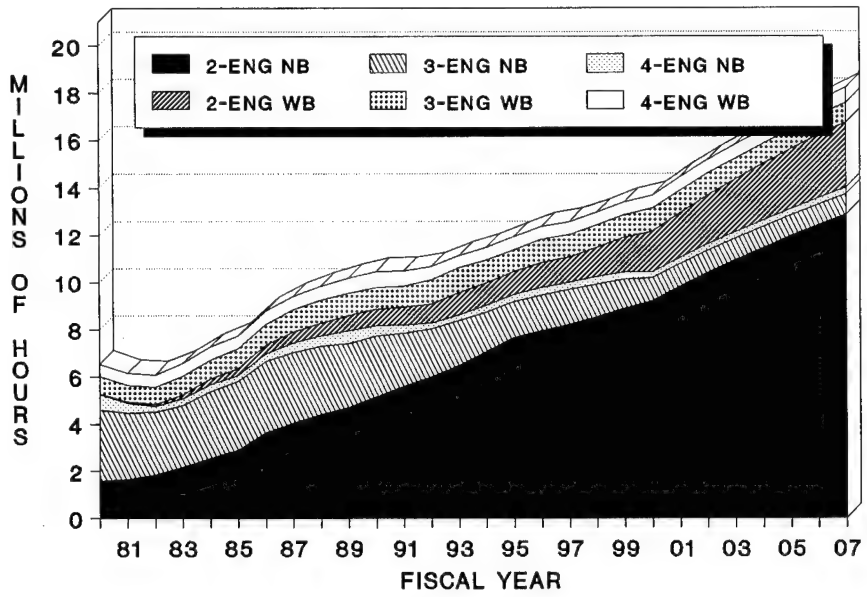
Airborne hours are forecast to increase 3.7 percent in 1996 to 12.4 million, and 1.5 percent in 1997, to 12.6 million. Airborne hours generally increase at rates similar to the rate of growth of traffic, with some adjustment made for moderate increase in the average aircraft size.

Two-engine aircraft (both narrowbody and widebody) are projected to account for 85.7 percent of all airborne hours flown in 2007. Narrowbody two-engine aircraft make up 70.6 per-cent of hours in 2007, up an average of 4.5 percent per year. Widebody two-engine aircraft make up 15.1 percent of the hours in 2007, up an average of 9.1 percent per year.

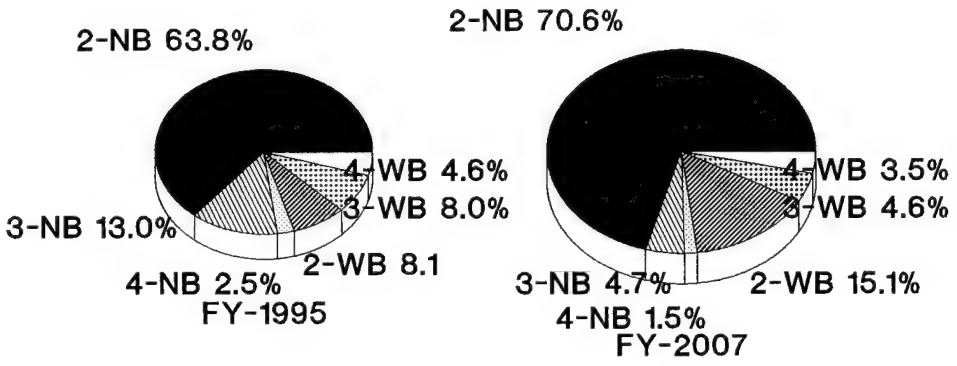
The share and the number of hours flown by three-engine widebody aircraft are forecast to decrease during the forecast period, based on known plans for carriers to reduce the number of aircraft in this group. The share for four-engine widebody aircraft will also decrease, from 4.6 percent in 1995 to 3.5 percent in 2007, although the hours increase by an average annual rate of 1.2 percent.

U.S. COMMERCIAL AIR CARRIERS

AIRBORNE HOURS



PERCENT DISTRIBUTION BY AIRCRAFT TYPE



The number of hours flown by three-engine narrowbody aircraft will decline significantly over the forecast period. Hours for this aircraft type drop from 1.6 million in 1995 to 0.9 million in 2007, or 44.6 percent. This reflects the retirement of large numbers of B-727 aircraft during the forecast period. Hours for the four-engine narrowbody fleet, made up primarily of DC-8s, are expected to show small decreases during the period.

CHAPTER IV

REGIONALS/COMMUTERS

The regional/commuter airline industry, for the purpose of this forecast, is defined as those air carriers that provide regularly scheduled passenger service and whose fleets are composed predominantly of aircraft having 60 seats or less. During 1995, 123 regional/ commuter airlines reported traffic data to the Bureau of Transportation Statistics (BTS), Office of Airline Information on Forms 298-C and 41.

The FAA historical data base includes activity for all regional/commuters operating in the 48 contiguous states, Hawaii, Puerto Rico, and the U.S. Virgin Islands. Excluded from the data base is activity in Alaska, other U.S. territories, and foreign territories. Alaskan activity is excluded from the forecast because of its unique operating environment and service characteristics compared the rest of the United States.

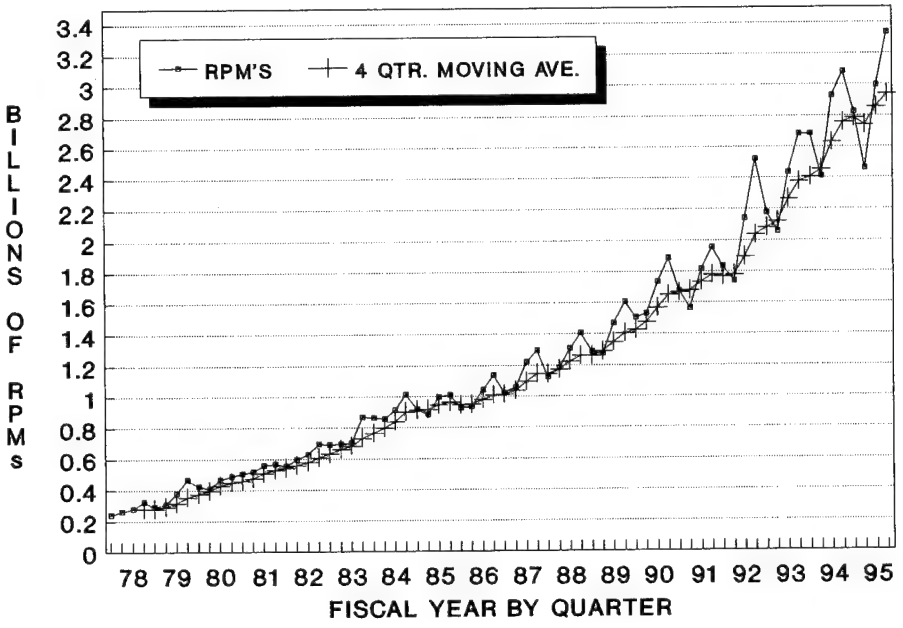
Additionally, the regional/commuter traffic statistics include duplicated enplanement and revenue passenger miles (RPMs) data for selected operators also included in the commercial air carrier traffic statistics. This duplication results from air carriers operating both large turboprop and turbojets (over 60 seats) as well as commuter type aircraft. The level of duplicated traffic (enplanements and RPMs) is presented in the technical notes at the beginning of Chapter IX for Tables 10 and 19.

REVIEW OF 1995

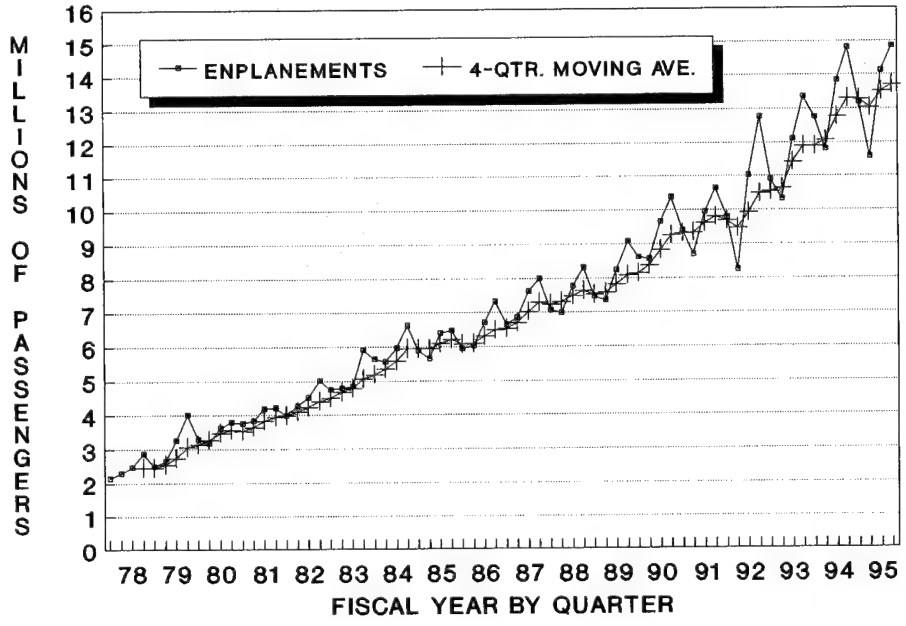
The regional/commuter airline industry has been in a period of transition since 1994. First, there was dramatic growth in the number of code-sharing agreements with the major air carriers in 1984, followed by a wave of air carrier acquisitions of, or purchases of equity interest in, their regional/commuter code-sharing partners in 1986. The evolution of the relationships with the larger air carriers has led to further route rationalization policies on the part of the larger partner, which has resulted in the transferring of increasing numbers of short-haul jet routes to their regional partners. It is this transferring of routes which has sustained the regional industry's historical high rate of growth over the past decade. Together, these actions have resulted in a process of industry consolidation, concentration, and increasing integration with the large commercial air carriers that has continued through 1995.

U.S. REGIONALS/COMMUTERS TRAFFIC TRENDS

REVENUE PASSENGER MILES



PASSENGER ENPLANEMENTS



INDUSTRY SUMMARY

The number of regional/commuter airlines totaled 123 in 1995, down slightly from 129 carriers in 1994. While the number of reporting airlines declined, growth also declined sharply compared to the industry's historical long-term trend. For the first time in many years, growth failed to out-pace that of the larger air carriers.

Traffic growth in 1995 was impacted by several factors affecting a number of the largest regional operators. They include the temporary grounding of the ATR aircraft, which significantly reduced capacity in the second quarter of FY 1995, changes in hubbing operations by several major carriers (American Eagle operations at Nashville and Raleigh-Durham, Delta Connection at Dallas, and Continental Express at Denver), and the competitive impact of the United Shuttle on the West Coast.

REVENUE PASSENGER ENPLANEMENTS

Total revenue passenger enplanements for the regional/commuter airlines, including Alaska and foreign territories, totaled 56.7 million in 1995, an increase of 1.8 percent compared to 1994. Excluding Alaska and foreign territories, enplanements totaled 53.7 million, up only 0.9 percent over 1994.

For the 48 contiguous States, enplanements increased only 0.3 percent in 1995, reaching 51.7 million. Enplanements in Hawaii, Puerto Rico, and the Virgin Islands totaled 2.0 million, an increase of 17.7 percent over 1994.

Enplanements in Hawaii almost doubled in 1995, which is primarily the result of the startup of a new carrier--Mahalo Air. The number of enplanements in Puerto Rico and the Virgin Islands were unchanged from 1994.

While not included in the forecast base, enplanements in Alaska and other U.S. and foreign territories totaled 2.9 million in 1995, an increase of 15.4 percent compared to 1994. Enplanements in Alaska increased 11.6 percent in 1995, while enplanements in the other territories were up 18.8 percent.

REVENUE PASSENGER MILES

Regional/commuter passenger miles totaled just under 11.9 billion in 1995, an increase of 3.5 percent over 1994. For the 48 contiguous States, revenue passenger miles increased 2.7 percent in 1995, totaling almost 11.2 billion. The reason for the higher growth in RPMs relative to passenger enplanements is that the average passenger trip length increased by 4.2 miles in 1995, reaching 216.7 miles.

Passenger miles in Hawaii, Puerto Rico, and the Virgin Islands (208.4 million) grew by just under 36.0 percent in 1995, while passenger miles in Alaska and other territories (484.0 million), increased by 14.0 percent.

INDUSTRY COMPOSITION

The fundamental character of the regional/commuter industry has changed considerably since the mid-1980s. These changes include the relative size and sophistication of airline operations, the carriers involved (especially the dominant industry operators), the aircraft fleet mix, and the industry's relationship with the large commercial air carriers in the national air transportation

TOP 50

REGIONAL/COMMUTER AIRLINES

RANKED BY TOTAL PASSENGER ENPLANEMENTS

FISCAL YEAR 1995

1. Simmons Airlines	26. Chautauqua
2 . Flagship Airlines	27. Mahalo Air
3. Horizon	28. Air Midwest
4. Mesa	29. Aloha IslandAir
5. Continental Express	30. GP Express
6. Comair	31. Gulfstream International
7. Atlantic Southeast	32. Scenic Airlines
8. Piedmont Airlines	33. MarkAir Express
9. SkyWest Airlines	34. Astral Aviation
10. WestAir	35. Cape Air
11. Wings West	36. Paradise Island
12. Business Express	37. Air Vegas
13. Allegheny Commuter	38. Chicago Express Airlines
14. Trans States	39. Pacific Island Aviation
15. Executive Airlines	40. Peninsula Airways
16. Mesaba	41. Viequies Air Link
17. Atlantic Coast	42. Conquest Airlines
18. Express Airline I	43. Lone Star Airlines
19. PSA Airlines	44. Air Nevada
20. CCAir	45. Samoa Air
21. Great Lakes	46. Colgan Air
22. United Feeder Service	47. LAB Flying Service
23. Commutair	48. Yute Air Alaska
24. Trans World Express	49. Freedom Air
25. ERA Aviation	50. Arizona Airways

Source: BTS Form 298-C and Form 41 enplanement data

TOP 30 CORPORATE STRUCTURES

Carrier/ Carrier Group	Percent of Industry Enplanements	Carrier/ Carrier Group	Percent of Industry Enplanements
1. American Eagle	20.9	16. ERA Aviation	0.7
2. Delta Connection	16.1	17. Chautauqua	0.7
3. Mesa	10.8	18. Mahalo Air	0.7
4. USAir Express	9.2	19. Aloha IslandAir	0.6
5. Alaska	6.7	20. GP Express	0.6
6. Continental Express	6.6	21. Gulfstream International	0.5
7. Trans States	4.2	22. MarkAir Express	0.5
8. Business Express	3.2	23. Midwest Express	0.5
9. Express Airlines I	2.7	24. Cape Air	0.5
10. Mesaba Airlines	2.5	25. Paradise Island	0.5
11. Atlantic Coast	2.5	26. Air Vegas	0.2
12. CCAir	1.4	27. Pacific Island Aviation	0.2
13. Great Lakes	1.4	28. Peninsula	0.2
14. Commutair	1.0	29. Viequies Air Link	0.2
15. Trans World Express	0.8	30. Conquest Airlines	0.2

system. The role of the regional/commuter industry has not changed since its inception, that is, to provide feeder service to the large hubs served by the large commercial air carriers. However, the exact scope and relationships of its role have changed dramatically.

The composition of the regional/commuter airline industry continued to evolve during 1995. The factors contributing to this change include economic and competitive influences, marketing strategies, and alliances with the larger commercial air carriers. Two distinct but interrelated trends have provided the basis for the changing character and composition of the industry since the mid-1980s. They are industry consolidation and the increasing integration of its operations with the larger air carriers.

INDUSTRY CONSOLIDATION

The number of regional/commuter airlines has declined by more than half since 1981, from 250 to only 123 carriers in 1995. The 123 operators in 1995 represents a drop of six carriers compared to 1994 when 129 carriers reported traffic data to BTS. However, the decline is even more dramatic since there were only 118 carriers still in operation at the end of the fiscal year. Because of the increased integration of operations with the larger commercial air carriers (through code-sharing agreements and acquisition of regionals, totally or in part), the success of many regionals is tied closely to the success of their larger partners. At the present time, there is no reason to assume that the trend towards further consolidation of the regional/commuter industry will not continue for at least several more years.

AIR CARRIER/COMMUTER AIRLINES CODE-SHARING AGREEMENTS

Air Carrier Program Name	Designated Commuter Carrier	Hubs Served
1. Alaska Airlines	Horizon*	Boise Portland Seattle Spokane
	Trans States	Los Angeles San Francisco
2. Aloha Airlines	Aloha IslandAir	Honolulu
3. America West Express	Mesa	Columbus Phoenix
4. American Eagle	Executive Airlines* Flagship Airlines	San Juan Boston Miami Nashville New York
	Simmons*	Dallas/Ft. Worth Chicago Los Angeles San Jose
5. Continental Express	Continental Express	Cleveland Houston Newark
6. Delta Connection	Atlantic Southeast*	Atlanta Dallas/Ft. Worth
	Business Express*	Boston New York
	Comair	Cincinnati Florida
	SkyWest Airlines	Los Angeles Salt Lake City
7. Midwest Express	Astral Aviation	Milwaukee

AIR CARRIER/COMMUTER AIRLINES
CODE SHARING AGREEMENTS (Continued)

Air Carrier Program Name	Designated Commuter Carrier	Hubs Served
8. Northwest Airlink	Business Express*	Boston
	Express Airlines I	Memphis
		Minneapolis/St. Paul
	Horizon*	Portland
		Seattle
	Mesaba	Detroit
		Minneapolis/St. Paul
	Trans States*	Los Angeles
		San Francisco
9. Trans World Express	Alpha Air	Los Angeles
	Trans States*	St. Louis
	Trans World Express	New York
10. United Express	Atlantic Coast	Washington, D.C.
	Great Lakes	Chicago
	Gulfstream International	Miami
	Mesa	Denver
		Portland
		Seattle
	WestAir	Los Angeles
		San Francisco
	United Feeder Service*	Chicago
11. USAir Express	Air Midwest	Kansas City
	Allegheny Commuter	Baltimore
		Pittsburgh
		Philadelphia
	CCAir	Charlotte
	Chatauqua	Orlando
		Pittsburgh
	Commutair	Boston
		New York
		Syracuse
	PSA	Baltimore
		Indianapolis

AIR CARRIER/COMMUTER AIRLINES
CODE SHARING AGREEMENTS (Continued)

Air Carrier Program Name	Designated Commuter Carrier	Hubs Served
11. USAir Express (Continued)	Mesa	Pittsburgh
		Tampa
	Piedmont Airlines	Baltimore
		Charlotte
		Florida
		Philadelphia
	Trans States*	Los Angeles

*Carrier operates both large aircraft (over 60 seats), and commuter aircraft.

INDUSTRY CONCENTRATION

While the number of carriers has declined, the size of the dominant industry carriers has also increased dramatically. This has resulted in increased industry concentration, with the top 50 carriers accounting for approximately 98.0 percent of total industry passenger enplanements in 1995, up from 97.5 percent in 1994. While total industry enplanements (including Alaska) increased by just 1.8 percent in 1995, the top 50 carriers grew at more than double the pace (4.4 percent).

The top 50 carriers in 1995 are listed in the table on page IV-4. Although the relative ranking has changed for many carriers, the composition of the group is basically unchanged from 1994.

The top 50 carrier data is based on BTS Form 298-C and Form 41 reporting entities. However, this carrier listing does not reflect the level of industry consolidation, concentration, and integration with the large air carriers. Some of the regionals are owned, totally or in part, by their larger code-sharing partners and still others are owned by other regionals. A total of 17 regionals are owned, totally or in part, by ten of the larger commercial air carriers, and five more are owned by three other regionals

A truer picture of the current industry composition is presented in the table on page IV-5 which portrays the industry from a corporate structure point of view. This table lists the top 30 regional/commuter corporate structures and their percentage share of 1995 industry enplanements. Viewed in this manner, it can be seen that there is a much greater level of industry concentration and a higher degree of integration with the large commercial airlines. In 1995, enplanements for the top 30 carriers increased by 2.6 percent and they accounted for just under 97.0 percent of total industry enplanements.

FORECAST ASSUMPTIONS

Industry growth is expected to out-pace that of the larger commercial air carriers and to be driven by the increased demand for aviation services. The introduction of new state-of-the-art aircraft, especially large high-speed turboprops and regional jets with ranges of up to 1,000 miles, opens up new opportunities for growth in nontraditional markets. However, the role of the regional airline industry will remain that of feeding traffic to the major and national carriers even as they expand into markets with longer route segments.

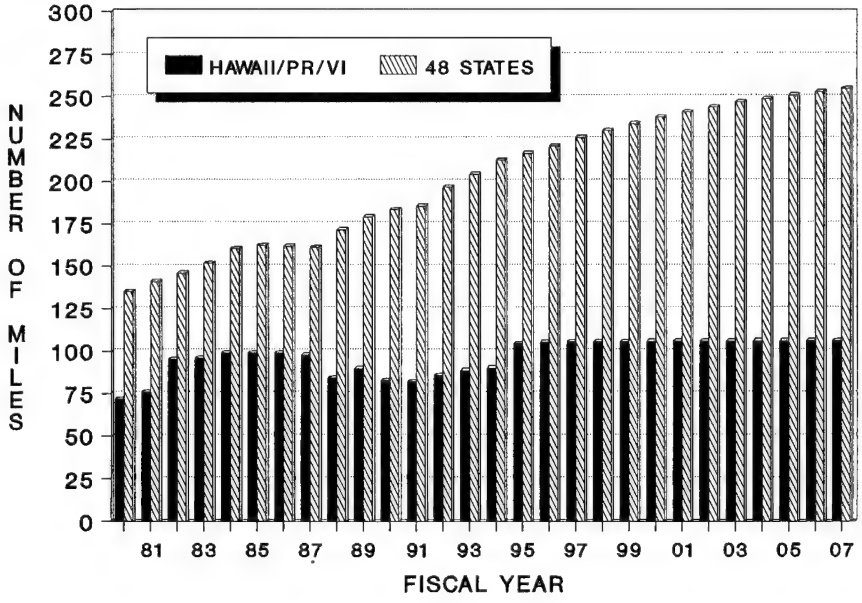
The regional airline industry is expected to continue to benefit from the continuing integration of service with the large commercial air carriers and further further route rationalization by its larger partners. The continued need of the large commercial air carriers to reduce overall costs and fleet size insure that some routes will continue to be transferred to their regional partners. However, this will not be as significant a driver of growth for the regional industry as in the past.

While the hand-off of short haul routes is expected to continue, it will be at a much diminished rate compared to past years. Thus the future rate of growth in enplanements will be lower than that experienced in the past. Also contributing to the slower growth in passenger traffic is the fact that the large commercial carriers are operating at relatively high load factors which tends to diminish the value of additional feed traffic. Until the major and national air carriers begin to add fleet capacity, they will not require significant increases in feed traffic from their regional partners.

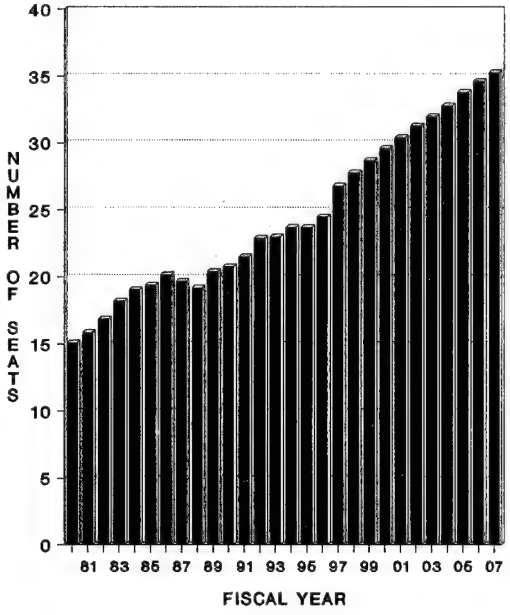
Revenue passenger miles are expected to increase at a faster rate than enplanements because the regional airlines are moving into larger aircraft having longer ranges. This will

U.S. REGIONALS/COMMUTERS FORECAST ASSUMPTIONS

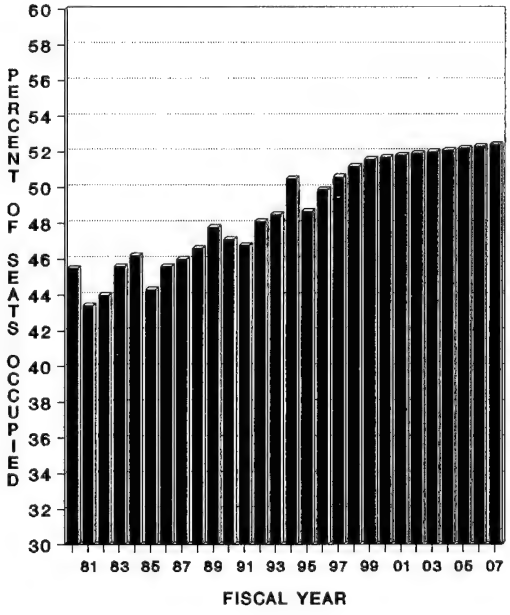
PASSENGER TRIP LENGTH



AVERAGE AIRCRAFT SIZE



PASSENGER LOAD FACTOR



open up additional markets for the regional/commuter operators. Thus the average passenger trip length is expected to increase during the forecast period, but the regional/commuter carriers will continue to serve primarily shorter-haul markets. The emphasis will be on improved service quality and schedule frequency in the markets best suited to their operations.

It is also expected that the regional/commuter aircraft fleet will continue to grow during the forecast period. The average seats per aircraft is expected to increase by almost 50 percent over the 12-year forecast period (3.4 percent annually), from 23.7 in 1995 to 35.3 in 2007 The most significant change in the fleet composition will result from the introduction of regional jet aircraft, many of which fall in the "40 to 60 seat" category. These aircraft will contribute to increased public acceptance of regional airline service, and will offer greater potential for replacement service on selected jet routes.

The average passenger trip length in the 48 contiguous States is projected to increase from 216.6 miles in 1995 to 259.0 miles in 2007, an average annual growth rate of 1.5 percent. The average trip length for Hawaii, Puerto Rico, and the Virgin Islands is expected to increase from 104.2 miles in 1995 to 106.2 miles in 2007, an average annual growth rate of 0.2 percent for the forecast period. The growth in the average passenger trip length and resulting growth in RPMs will be driven, in large part, by the increased introduction of larger high-speed turboprop and regional jet aircraft.

With increased speed and capacity, these aircraft will contribute to an expanded market area that can be served on a timely and efficient basis by the regional/commuter airline industry.

Also, with the introduction of larger aircraft into the regional fleet, the industry load factor will creep up slowly as the average seat size of the fleet increases. The average industry load factor is expected to increase during the 12-year forecast period, from 48.7 in 1995 to 52.4 in 2007. This also reflects, in part, the continuing emphasis on frequency of service.

The baseline assumptions for the average seats per aircraft, passenger trip length, and load factors are presented in Chapter IX, Table 18.

REGIONAL/COMMUTER FORECASTS

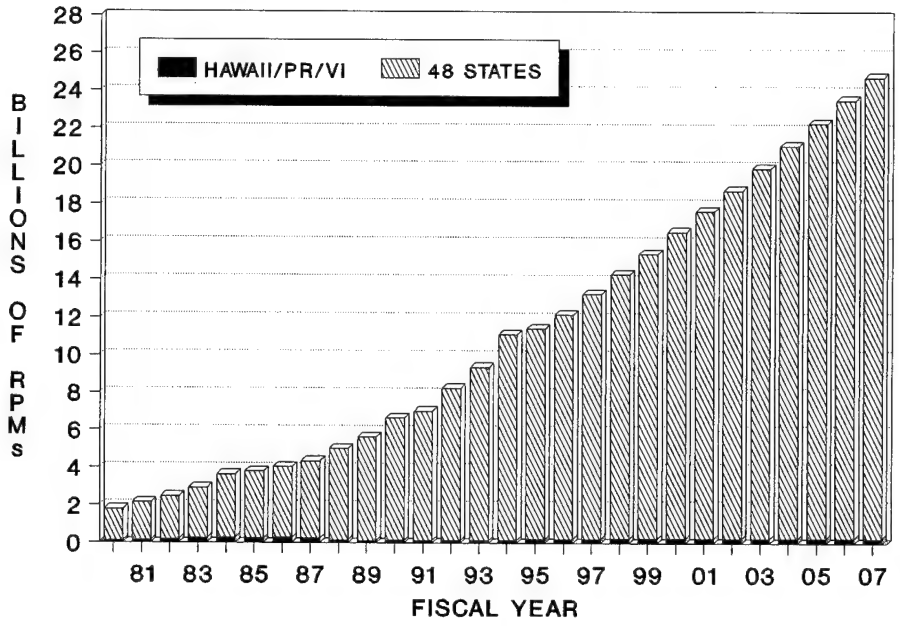
It should be noted that the forecasts discussed in the following paragraphs do not contain any assumptions with regard to the potential impact of the rule requiring Part 135 regional/ commuter airlines to operate under Part 121 operating standards. At the current time, there is not enough factual information or analysis available to determine whether the rule will impact the industry positively, negatively, or at all. The FAA intends to track regional/ commuter traffic results very closely during the coming year to try to discern what impact, if any, the rule may have had on the demand for regional/commuter services. If it is determined that the rule is having an impact on traffic, either positively or negatively, these findings, will be factored into future year's forecasts

REVENUE PASSENGER MILES

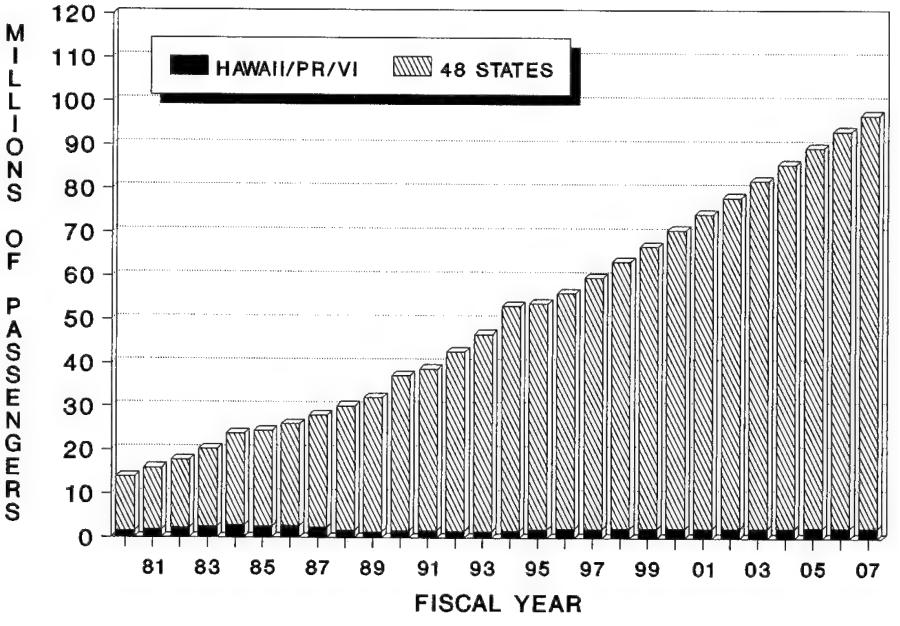
Regional/commuter traffic is expected to rebound in 1996, with revenue passenger miles increasing to 12.2 billion (up 6.6 percent) in 1996 and to 13.2 billion (up 8.2 percent) in 1997. Passenger miles are forecast to increase at an average annual rate of 6.7 percent during the 12-year forecast period, totaling 24.7 billion in 2007.

U.S. REGIONALS/COMMUTERS

SCHEDULED REVENUE PASSENGER MILES



SCHEDULED PASSENGER ENPLANEMENTS



Passenger miles in the 48 contiguous States are forecast to increase 6.3 percent (to 11.9 billion) in 1996 and 8.2 percent in 1997 (to 13.2 billion. During the 12-year forecast period, passenger miles are expected to increase at an average annual rate of 6.7 percent, totaling 24.7 billion in 2007.

Passenger miles in Hawaii, Puerto Rico, and the Virgin Islands are projected to increase to 220.9 million (up 6.0 percent) in 1996 and to 221.3 million (up 0.2 percent) in 1997. During the 12-year forecast period, passenger miles are expected to grow at an average annual rate of 1.7 percent, totaling 254.7 million in 2007.

REVENUE PASSENGER ENPLANEMENTS

Regional/commuter passenger enplanements are projected to increase to 56.1 million (up 4.5 percent) in 1996 and to 59.7 million (up 6.4 percent) in 1997. Passenger enplanements are expected to increase at an average annual rate of 5.0 percent during the 12-year forecast period, and reach a total of 96.9 million in 2007.

The number of passengers enplaned within the 48 contiguous States are projected to increase to 54.0 million (up 4.4 percent) in 1996 and to 57.6 million (up 6.7 percent) in 1997. Over the 12-year forecast period, enplanements are forecast to increase at an average annual rate of 5.2 percent, totaling 94.5 million in 2007.

Passenger enplanements in Hawaii, Puerto Rico, and the Virgin Islands are projected to total 2.1 million in both 1996 and 1997, unchanged from the level achieved in 1995. However, enplanements are expected to increase at an average annual rate of 1.5 percent over the entire forecast period, totaling 2.4 million in 2007.

REGIONAL/COMMUTER FLEET

The current composition of the regional/commuter fleet underscores the growth of the industry and quality of service provided. From a fleet once composed predominantly of general aviation type aircraft, today's fleet is increasingly composed of new state-of-the-art aircraft offering amenities similar to those found on large jet aircraft. Today's regional/commuter airlines have a large variety of aircraft from which to choose. Consequently, they can tailor their fleet to the specific markets they serve.

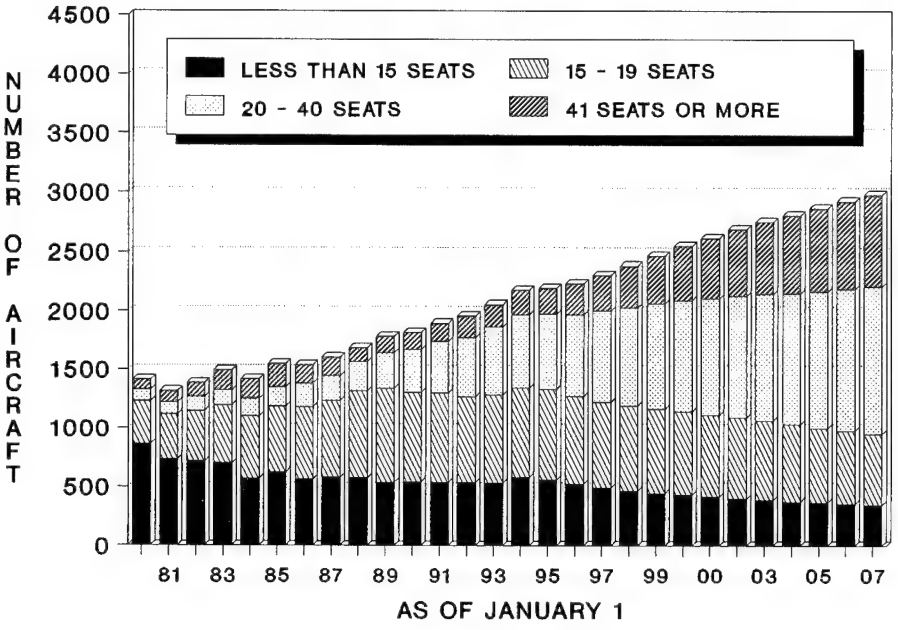
While there are numerous aircraft models to choose from in the four seat categories presented in this forecast, the most significant are the new aircraft with larger seating capacities--primarily the "20 to 40 seats" and the "greater than 40 seats" categories. The introduction of the larger new aircraft is reflected in the growth of the average seats per aircraft from 15.1 in 1980 to 23.7 in 1995, an increase of almost 57.0 percent. During this same time period, the regional fleet grew by slightly faster (55.5 percent), reflecting growth in the average seat size per aircraft.

During the forecast period, it is projected that the average seats per aircraft will continue to grow at a rate roughly comparable to the rate of growth in the fleet. The growth in the average seat size of the fleet is based on the projected fleet growth and its composition within the aircraft size categories. This reflects the continued introduction of larger aircraft into the fleet. The fleet is projected to grow at an average annual rate of 2.6 percent, increasing from 2,192 aircraft in 1995 to 2,980 aircraft in 2007.

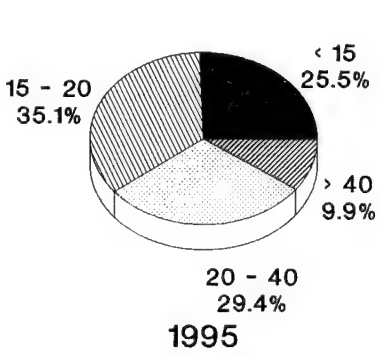
The number of regional aircraft having less than 15 seats--which once made up the bulk of the fleet (60.9 percent in 1980)--totaled only 560 in 1995, and accounted for slightly over one-

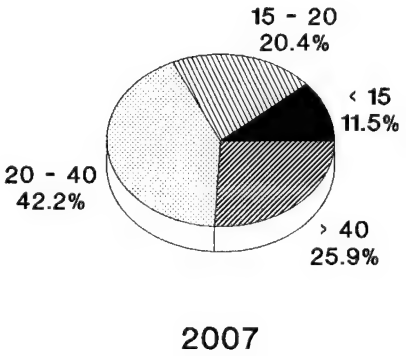
U.S. REGIONALS/COMMUTERS

PASSENGER AIRCRAFT



PERCENT BY AIRCRAFT SEAT SIZE





quarter of the total regional fleet. Between 1995 and 2007, the number of aircraft in this category is expected to decline to 343. In 2007 this aircraft category will represent only 11.6 percent of the total fleet.

In 1995, the "15 to 19 seats" category accounted for the largest portion of the fleet-- 35.0 percent. During the last 10 years, most of the growth of the regional/commuter fleet has occurred in this category. However, this group is expected to decline steadily over the current forecast period. It is projected that the "15 to 19 seats" category will decline from 770 aircraft in 1995 to 609 in 2007. However, this aircraft group will still account for 20.4 percent of the fleet in 2007.

The greatest growth in the fleet is expected to occur in the "20 to 40 seats" and "greater than 40 seats" categories. This is due to the continued substitution of service and new route opportunities created through the use of larger, longer range regional aircraft. In 1995, aircraft in the "20 to 40 seats" category accounted for 29.4 percent of the regional fleet, while aircraft in the "greater than 40 seats" accounted for only 9.9 percent. By the year 2007, these two aircraft categories are expected to account for a combined 68.1 percent of the total fleet-- 42.2 percent in the "20 to 40 seats" category and 25.9 percent in the "greater than 40 seats" category. During the 12-year forecast period, aircraft in the "20 to 40 seats" category are forecast to increase from 645 aircraft in 1995 to 1,257 in 2007, an average annual increase of 5.7 percent. Aircraft in the "greater than 40 seats" category are expected to increase from 217 in 1995 to 771 in 2007, an average annual growth of 11.1 percent.

FLIGHT HOURS

Regional/commuter flight hours, as reported on BTS Form 298-C, totaled just over 2.9 million hours in 1995, down 1.7 percent compared to 1994. Industry flight hours are expected to increase 1.4 percent in 1996 to just under 3.0 million. During the 12-year forecast period, flight hours are forecast to increase at an average annual rate of 1.8 percent, and total 3.6 million hours by 2007.

CHAPTER V

GENERAL AVIATION

The term general aviation is used to describe a diverse range of aviation activities and includes all segments of the aviation industry except commercial air carriers (including commuter/ regional aircraft) and military. Its activities include the training of new pilots, sightseeing, the movement of large heavy loads by helicopter, and flying for corporate/business or personal reasons. Its aircraft range from a one-seat single engine piston to the long-range corporate jet.

General aviation is an important component of both the aviation industry and our national economy. It provides on-the-spot efficient and direct aviation services that commercial aviation cannot or will not provide. In addition, the production and sale of general aviation aircraft, avionics, and other equipment, along with the provision of support services such as flight schools, fixed base operators, finance, and insurance, make the general aviation industry an important contributor to the nation's economy.

REVIEW OF 1995

The beginning of a renewed period of optimism for the general aviation industry started in 1995. Cessna is reentering the single engine piston aircraft market for the first time since 1986. Piper Aircraft is emerging from Chapter 11 bankruptcy protection and is increasing its production schedule as are other aircraft manufacturers. Aviation suppliers are also hiring and expanding production. These are a few of the positive signs of the industry's response to the passage of the General Aviation Revitalization Act of 1994.

AIRCRAFT SHIPMENTS AND BILLINGS

In fiscal year 1995, the number of general aviation aircraft shipments totaled 980, an increase of 12.9 percent over 1994. Billings totaled nearly $3.0 billion in FY 1995, an increase of 30.5 percent over billings of $2.3 billion in FY 1994. The significantly larger increase in billings reflects the higher unit value of the aircraft being shipped in 1995.

The market for turbine powered general aviation aircraft increased for a third consecutive year in 1995. Turboprop aircraft shipments (234) were up 15.3 percent while shipments of jet aircraft (241) increased 8.1 percent. It also appears that the market for piston aircraft may have finally bottomed out. A total of 505 piston aircraft

were shipped in FY 1995, an increase of 4.3 percent over 1994.

Exports of general aviation aircraft totaled only 286 in FY 1995, a decline of 2.4 percent. Export billings declined 23.2 percent in 1995 totaling $637.3 million. In 1995, exports accounted for 29.2 percent of the total general aviation aircraft shipments and 21.4 percent of total billings, down from 33.8 and 36.4 percent, respectively, in 1994.

PILOT POPULATION

As of January 1, 1995, the total pilot population was 654,088. This was 10,981 fewer pilots than a year earlier when the number of pilots totaled 665,069, a decline of 1.7 percent. The four major pilot groups--student, private, commercial, and airline transport--totaled 636,652 and accounted for 97.3 percent of all pilots in 1995.

Two of the four major groups registered increases in 1995. Although the number of airline transport pilots (117,434) were up only 0.3 percent in 1995, but still making it the only category to continue to show sustained year-over-year increases in numbers. The number of private pilots (284,236) increased 0.2 percent in 1995, reversing a decline that began in 1990. The other two major categories posted declines in 1995--students pilots (96,254--down 7.1 percent and commercial pilots (138,728--down 3.0 percent. It should be noted that the number of student pilots fell below 100,000 for the first time since 1962.

The number of helicopter pilots (those holding helicopter certificates only) declined for a third consecutive years in 1995, down 4.9 percent to 8,719. However, the number of glider pilots (8,476) were up 1.8 percent, the seventh consecutive annual increase. The number of recreational pilots (241) also increased in 1995--up 17.0 percent.

After recording increased numbers for nine consecutive years (1985-1993), the number of instrument rated pilots (302,300) has declined for the last two years--down 0.2 percent in 1994 and 1.1 percent in 1995. Since 1984, however, this category of pilots is up 18.9 percent. In 1995, 46.2 percent of all pilots were instrument rated. This compares to 45.9 percent in 1994 and only 35.4 percent in 1984. These numbers reflect the increased sophistication of both the aircraft and pilots utilizing the National Airspace System.

OPERATIONS

General aviation activity at combined FAA and contract towered airports declined for a fifth consecutive year in 1995, down 1.1 percent to 35.9 million operations. Most of the decline in 1995 occurred in itinerant operations (20.8 million), which were down 1.4 percent. Local operations totaled 15.1 million in 1995, a decline of only 0.7 percent. Since 1990, local operations have declined 11.7 percent while itinerant operations are down 10.0 percent.

However, both general aviation instrument operations at FAA towered airports and the number of general aviation aircraft handled at FAA en route centers have registered increases over the past two years. Instrument operations at combined FAA and contract tower airports (18.3 million) were up 1.9 percent in 1994 and 0.6 percent in 1995. General aviation activity at en route centers (8.0 million) was up 2.7 percent in 1994 and 3.9 percent in 1995. These increased levels of general aviation activity by the more sophisticated aircraft, combined with increased shipments of turboprop and turbojet aircraft, could indicate the long awaited upturn in business/corporate flying has arrived.

1994 GENERAL AVIATION AND AIR TAXI ACTIVITY SURVEY

Historical general aviation active fleet and hours flown statistics discussed in this chapter are derived from the General Aviation and Air Taxi Activity Survey that is conducted annually by the FAA's Statistics and Forecast Branch. The fleet data are estimated using a sample from the FAA Aircraft Registry and are subject to variation due to errors in the registry and statistical sampling.

A top-to-bottom review of the survey has resulted in several changes which have caused some discontinuities in the historical series beginning in 1993. First, commuter aircraft were excluded from the 1993 survey for the first time. Second, two new use categories were added--sight-seeing and external load. Most of the sightseeing activity was included in the aerial observation category in prior years. The external load activity was previously included in the other work category.

Several new aircraft type categories were also added to the 1993 survey. Single-engine turboprop aircraft were separated from the "other" turboprop category. Turbine rotorcraft, formerly a separate category, was divided into single engine and multi-engine. Additionally, all aircraft with experimental air worthiness certificates were grouped together. Prior to 1993, these aircraft had been included within the other aircraft groupings.

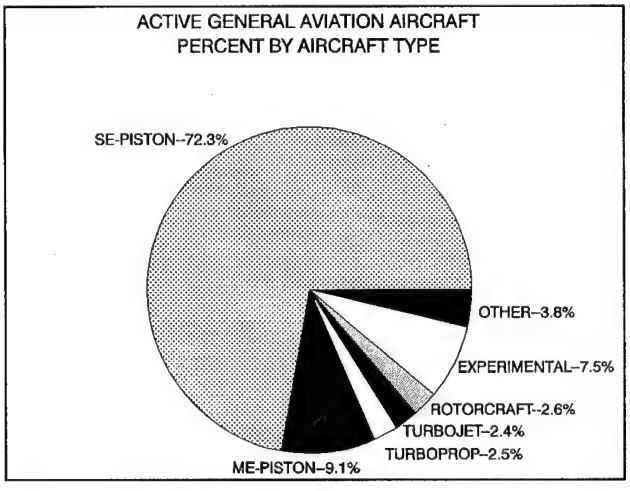
The active fleet and hours flown, by aircraft type and use category for the period 1990 to 1994, are detailed in tables on pages 5 through 8.

The 1994 survey results for active general aviation aircraft are reported as January 1, 1995 totals in Tables 21 and 22 (Chapter IX). The 1994 survey results for hours flown are listed in Table 23 (Chapter IX) as reported in the 1994 survey--as calendar year 1994.

ACTIVE AIRCRAFT

The "active fleet" consists of any aircraft flown at least one hour during the previous year. Based on the results of the 1994 survey (reported as January 1, 1995 in Tables 21 and 22), the general aviation active fleet totaled 170,600. This represents a 3.1 percent decline from the 176,006 active aircraft reported in the 1993 survey.

The piston, turboprop, and rotorcraft aircraft categories all recorded declines in 1994. The number of single engine piston aircraft declined from 130,687 to 123,332 (5.6 percent) while the number of multi-engine piston aircraft declined from 16,406 to 15,577 (5.1 percent). The number of turboprop aircraft declined from 4,359 to 4,207 (3.5 percent) and the number of rotorcraft declined from 4,510 to 4,390 (2.7 percent).



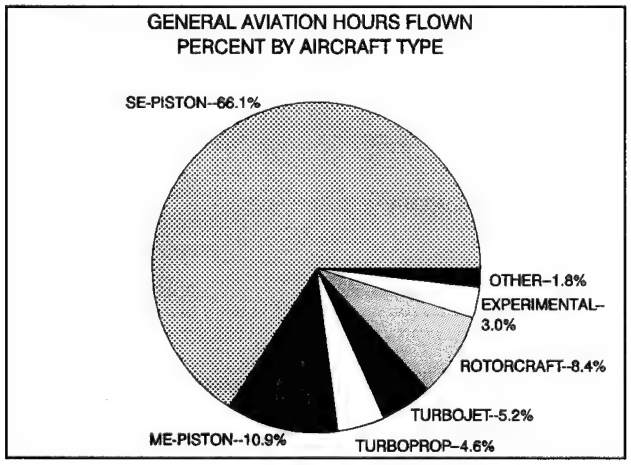
On the other hand, increases were recorded in the turbojet, other, experimental, and other aircraft categories. The number of turbojets increased from 3,859 to 4,073, up 5.6 percent. The "other aircraft" category increased 17.6 percent in 1994, from 5,247 to 6,169 aircraft. This consisted of 2,579 gliders (up 62.9 percent) and

3,491 lighter-than-air aircraft (down 3.1 percent).

Experimental aircraft were first reported in the 1993 survey and totaled 10,938. In 1994, the number of experimental aircraft totaled 12,852, an increase of 17.5 percent. Within the experimental aircraft category, both amateur builts (9,523) and "other" (2,767) aircraft registered increases--up 38.9 and 12.4 percent, respectively. The exhibition category (562) declined 65.4 percent in 1994.

HOURS FLOWN

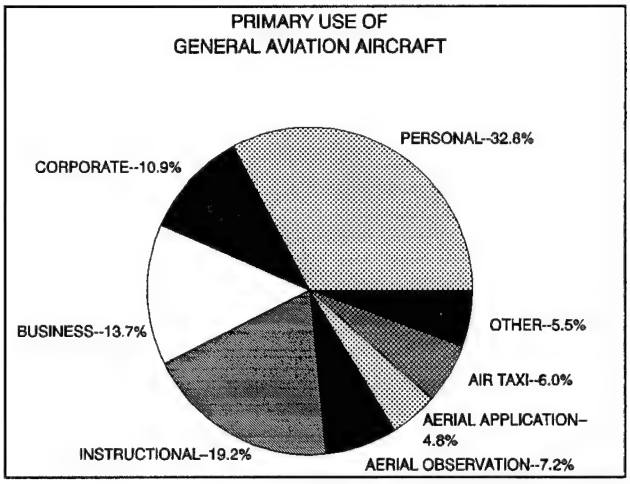
Many aircraft categories reported increased flying during 1994. Hours flown by multi-engine piston aircraft (2.6 million) were up 3.6 percent, turbojet hours (1.2 million) were up 6.5 percent, rotorcraft hours (2.0 million) were up 9.5 percent, experimental aircraft hours (0.7 million) were up 1.0 percent, and "other" aircraft hours (0.4 million) were up 12.8 percent. However, the number of hours flown by single engine piston aircraft (15.8 million) declined 4.5 percent while turboprop hours (1.1 million) declined 9.9 percent. Unfortunately, the single engine piston category accounts for the vast majority (66.1 percent) of all general aviation flying. As such, the total hours flown by general aviation aircraft declined 2.0 percent in 1994, from 24.3 to 23.9 million.



PRIMARY USE OF AIRCRAFT

Based on the number of hours flown, personal use continues to be the major reason given for general aviation activity. In 1994, personal flying accounted for 34.0 percent of general aviation activity, up from 32.6 percent in 1993. Equally important, however, is the fact that the number of hours flown by this category increased 2.2 percent in 1994, from 7.9 to 8.1 million.

The number of hours flown by the second largest use category, instructional flying (17.4 percent), declined 11.2 percent in 1994, from 4.7 to 4.2 million. More important, and a real cause for concern by the general aviation community, is the steady decline reported by this use category. Since 1990, the number of instructional hours flown have declined by 42.6 percent. In 1990, instructional flying accounted for 30.2 percent of all general aviation hours flown, nearly twice what it is today.



The number of hours flown by the combined use categories of business and corporate flying declined 7.5 percent in 1994, from 6.0 to 5.6 million. These two use categories accounted for 23.3 percent of total general aviation activity in 1994, down from 24.7 percent in 1993. The total hours recorded for the business use category declined from 3.3 to 3.0 million while

GENERAL AVIATION ACTIVE AIRCRAFT BY PRIMARY USE
(In Thousands)

Use Category	1994	1993	1992	1991	1990
Corporate	9.7	9.9	9.4	10.0	10.1
Business	25.6	27.8	28.9	31.6	33.1
Personal	100.8	102.1	108.7	115.1	112.6
Instructional	14.6	15.6	16.0	17.9	18.6
Aerial Application	4.2	5.0	5.1	7.0	6.2
Aerial Observation	4.9	4.8	5.6	5.1	4.9
Sight Seeing	1.3	1.6	N/A	N/A	N/A
External Load	0.1	0.1	N/A	N/A	N/A
Other Work	1.2	1.0	1.7	1.7	1.4
Air Taxi	3.9	3.8	4.6	5.5	5.8
Other	4.2	4.2	3.5	3.9	4.1
TOTAL	170.6	175.9	183.6	198.5	198.0

SOURCE: 1990-1994 General Aviation Activity and Avionics Surveys.

N/A = Not applicable. Sight Seeing and External Load added in 1993 as new use categories. Prior to 1993 these aircraft were included in one of the other nine use categories, as appropriate.

Notes:
Commuter aircraft were excluded from survey beginning in 1993. Commuter aircraft in 1990 - 1992 were as follows: 1990 = 1,200; 1991 = 700; and 1992 = 800.

Columns may not add to totals due to rounding and estimation procedures.

GENERAL AVIATION HOURS FLOWN BY PRIMARY USE
(In Thousands)

Use Category	1994	1993	1992	1991	1990
Corporate	2,548	2,659	2,262	2,617	2,913
Business	3,005	3,345	3,537	4,154	4,417
Personal	8,116	7,938	8,592	9,685	9,276
Instructional	4,156	4,680	5,340	6,141	7,244
Aerial Application	1,210	1,167	1,296	1,911	1,872
Aerial Observation	1,750	1,750	1,730	1,797	1,745
Sight Seeing	323	412	N/A	N/A	N/A
External Load	172	105	N/A	N/A	N/A
Other Work	226	175	343	471	572
Air Taxi	1,670	1452	2,009	2,241	2,249
Other	640	656	358	473	475
TOTAL	23,866	24,340	25,800	29,497	30,763

SOURCE: 1990-1994 General Aviation Activity and Avionics Surveys.

N/A = Not applicable. Sight Seeing and External Load added in 1993 as new use categories. Prior to 1993 these aircraft were included in one of the other nine use categories, as appropriate.

Notes:
Commuter aircraft were excluded from survey beginning in 1993. Total hours for commuter aircraft in 1990 - 1992 were as follows: 1990 = 1,333,000; 1991 = 570,000; and 1992 = 693,000.

Columns may not add to totals due to rounding and estimation procedures.

GENERAL AVIATION ACTIVE AIRCRAFT BY AIRCRAFT TYPE
(In Thousands)

AIRCRAFT TYPE	1994	1993	1992	1991	1990
Fixed Wing - Total	147.2	155.3	170.8	184.6	184.5
Piston -- Total	138.9	147.1	162.1	175.3	175.2
One Engine	123.3	130.7	143.6	154.1	154.0
Two Engine	15.5	16.4	18.5	21.1	21.1
Other Piston	0.1	0.0	0.1	0.1	0.1
Turboprop -- Total	4.2	4.4	4.7	4.9	5.3
Single Engine	0.6	0.7	N/A	N/A	N/A
Two Engine	3.6	3.6	4.1	4.4	4.1
Other Turboprop	0.0	0.2	0.2	0.3	0.4
Turbojet -- Total	4.1	3.9	4.0	4.4	4.1
Two Engine	3.9	3.7	3.8	4.1	3.7
Other Turbojet	0.2	0.2	0.2	0.3	0.4
Rotorcraft -- Total	4.4	4.5	5.8	6.3	6.9
Piston	1.4	1.6	2.2	2.5	3.2
Turbine	3.0	2.8	3.5	3.8	3.7
Single Engine	2.3	2.1	N/A	N/A	N/A
Multi-engine	.7	0.7	N/A	N/A	N/A
Other -- Total	6.2	5.2	7.8	7.6	6.6
Experimental -- Total	12.9	10.9	N/A	N/A	N/A
Total All Aircraft	170.6	175.9	183.6	197.8	196.9

SOURCE: 1990-1994 General Aviation Activity and Avionics Surveys.

N/A = Not applicable. Prior to 1993 Single Engine Turboprops were included in "Other Turboprop". Experimental aircraft were included in one of the other aircraft types, as appropriate.

Notes:
Commuter aircraft were excluded from survey beginning in 1993. Commuter aircraft in 1990 - 1992 were as follows: 1990 = 1,200; 1991= 700; and 1992= 800.

Columns may not add totals due to rounding and estimation procedures.

GENERAL AVIATION HOURS FLOWN BY AIRCRAFT TYPE
(In Thousands)

AIRCRAFT TYPE	1994	1993	1992	1991	1990
Fixed Wing -- Total	20,717	21,421	23,801	26,851	29,546
Piston -- Total	18,370	19,029	21,251	24,102	25,832
One Engine	15,765	16,514	18,074	20,540	21,883
Two Engine	2,597	2,514	3,172	3,555	3,897
Other Piston	8	1	4	7	53
Turboprop -- Total	1,106	1,227	1,478	1,513	2,319
Single Engine	207	244	N/A	N/A	N/A
Two Engine	899	979	1,238	1,359	2,162
Other Turboprop	0	3	240	154	157
Turbojet -- Total	1,241	1,165	1,072	1,236	1,396
Two Engine	1,197	1,126	1,030	1,183	1,279
Other Turbojet	44	39	42	54	117
Rotorcraft -- Total	2,006	1,832	2,283	2,757	2,209
Piston	340	370	416	585	716
Turbine	1,666	1,462	1,866	2,172	1,493
Single Engine	1,197	1,073	N/A	N/A	N/A
Multi-engine	469	389	N/A	N/A	N/A
Other -- Total	424	376	410	459	341
Experimental -- Total	718	711	N/A	N/A	N/A
Total All Aircraft	23,866	24,340	25,800	29,497	30,763

SOURCE: 1990-1994 General Aviation Activity and Avionics Surveys.

N/A = Not applicable. Prior to 1993 Single Engine Turboprops were included in "Other Turboprop". Experimental aircraft were included in one of the other aircraft types, as appropriate.

Notes:
Commuter aircraft were excluded from survey beginning in 1993. Total hours for commuter aircraft in 1990 - 1992 were as follows: 1990 = 1,333,000; 1991 = 570,000; and 1992 = 693,000.

Columns may not add to totals due to rounding and estimation procedures.

its percentage of total activity declined from 13.7 to 12.6 percent. The hours recorded for the corporate use category declined from 2.7 to 2.5 million, down 17.6 percent. Corporate flying accounted for 10.7 percent of general aviation activity in 1994, down slightly from 10.9 percent in 1993.

AT THE THRESHOLD OF A NEW ERA

General aviation continues to be a dominant force in aviation. In 1994, there were 672 airports with commercial service certificates (also used by general aviation) and a total of 17,671 airports/heliports used exclusively by general aviation aircraft. In terms of active aircraft, there were a total of 170,600 active general aviation aircraft in 1995--compared to 4,582 commercial jet aircraft, and 2,192 regional/commuter aircraft.

Of the 654,088 certificated pilots in 1995, general aviation accounted for 82 percent of the total. In 1994, general aviation operations totaled 104.1 million, over 79 percent of the total 131.3 million operations at U.S. airports, both towered and nontowered.

THE DECLINE IN INFRASTRUCTURE

Despite its dominance, general aviation has been in a state of decline for much of the 1980s and through the early 1990s. Nowhere is the decline more evident and, perhaps most critical, than in the U.S. general aviation manufacturing industry. In 1980, there were 29 U.S. and 15 foreign manufacturers of piston engine aircraft. Today, there are 29 foreign and only nine U.S. manufacturers. In 1980, 100 percent of the single engine piston aircraft sold in the United States were manufactured in the United States. Today, less than 70 percent are manufactured in the United States.

The long term decline in the number of manufacturers, combined with the precipitous decline in the shipments of single engine piston aircraft during the 1980s and early 1990s, is a major cause of the for concern for the general aviation industry. The single engine piston aircraft is the base on which general aviation must build its future. Historically, new pilots are trained in single engine piston aircraft and work their way up through retractable landing gear and multi-engine piston and turbine aircraft. When the single engine piston market is in decline, it signals a slowing of expansion in the general aviation fleet and, consequently, a slowing in the rate of growth of general aviation activity.

In addition to the long-term decline in the production of single engine piston aircraft, there has been an accompanying deterioration in the flight instructor and flight training infrastructure in this country. Over the years, the number of flight schools has been on the decline. In addition, there are fewer FBOs offering flight training and fewer formal flight training programs offered at these facilities.

The physical facilities of many of the FBOs and flight schools have also deteriorated. This is partially due to the economic strain currently experienced by a large number of FBOs. The FBOs problems have been further compounded by the fact that there have been no new training aircraft built in the United States in recent years (only a small number of imported aircraft have been available).

Events that have contributed to the downturn in general aviation activity include changes in disposable income, increases in airspace restrictions applied to VFR aircraft, reductions in leisure time, shifts in personal preferences for

goods, services, and leisure time, and the deregulation of the commercial airline industry.

However, one factors most frequently mentioned as the cause of the decline in general aviation is the increased cost of owning and operating general aviation aircraft.

OWNERSHIP COST FACTORS

The nominal cost of owning and operating an aircraft has increased annually since 1980. However, these costs have been less inflationary than increases in the consumer price index over the same time period. In fact, the real cost of (1982-84$) of maintaining and operating a general aviation aircraft has actually declined since the early 1980s.

The nominal cost of purchasing a general aviation aircraft has also risen dramatically, but it has far exceeded the general rise of inflation. Thus the real costy of purchasing general aviation aircraft has also increased. Since 1980, the average cost of purchasing a general aviation aircraft has increased as follows:

- single engine piston aircraft are up 104 percent through 1986 (the last year of production of this type of aircraft), up 38.1 percent in 1982-1984$;
- multi-engine piston aircraft are up 200 percent, 62.0 percent in 1982-1984$;
- turboprop aircraft are up 159 percent, 39.9 percent in 1982-1984$; and
- turbojet aircraft are up 127 percent, 22.9 percent in 1982-1984$.

Despite relatively low general inflation for the economy as a whole over the past 4 years (up a cumulative 10.4 percent), the nominal purchase prices of multi-engine pistons (up 20.9 percent), turboprops (up 24.6 percent), and turbojets (up 20.9 percent) have increased significantly.

Increases in product liability costs are one of the key factors responsible for the large increases in the purchase price of general aviation aircraft. Over the last 10 years, annual product liability costs to manufacturers have increased from $24 million annually to over $210 million, despite an improved safety record.

Clearly, these ownership cost increases, especially those in the purchase price, have had a significant negative impact on general aviation aircraft sales and are largely responsible for the decline in aircraft shipments that has occurred over the last decade.

The graphs on pages 11 through 14 depict the real cost of purchasing and maintaining/ operating a general aviation aircraft. Nominal or current purchase prices and operating cost have been deflated by the consumer price index (an average of 1982-1984$) and indexed to 1983 (i.e., 1983 equals 100).

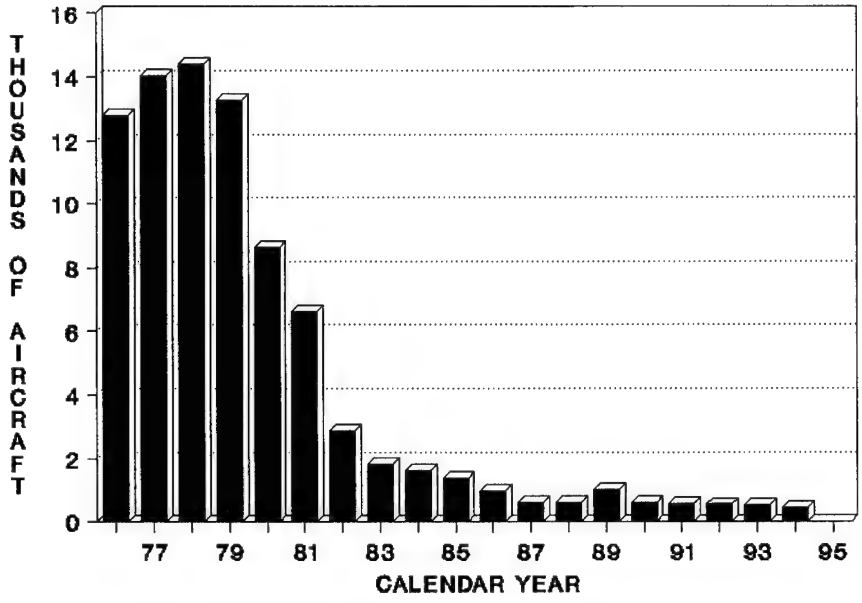
INDUSTRY CHALLENGES

For the long-term, there are a number of challenges facing the general aviation industry. In order to stimulate growth in the student and private pilot populations, as well as generate demand for new single engine piston aircraft, the general aviation industry must make fundamental improvements in both its infrastructure and how it promotes itself.

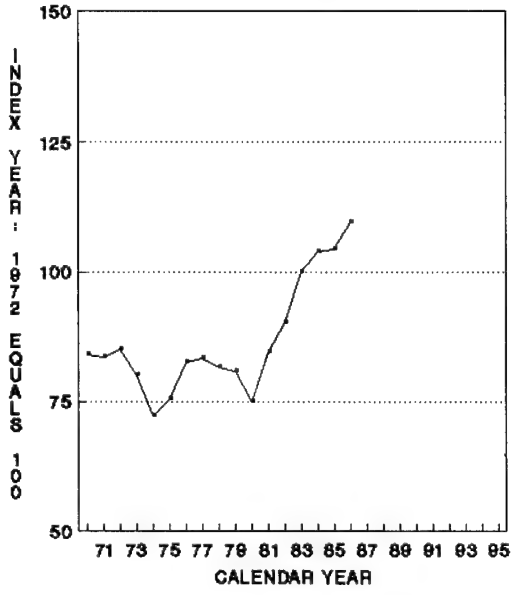
In the post "product liability reform environment," manufacturers must develop and incorporate new production processes, new materials, and new technologies in the

SINGLE ENGINE PISTON AIRCRAFT TRENDS

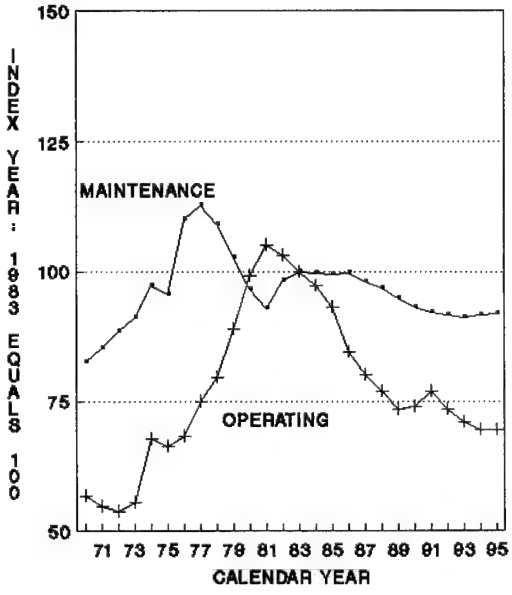
AIRCRAFT SHIPMENTS



AIRCRAFT PRICES ($1983)

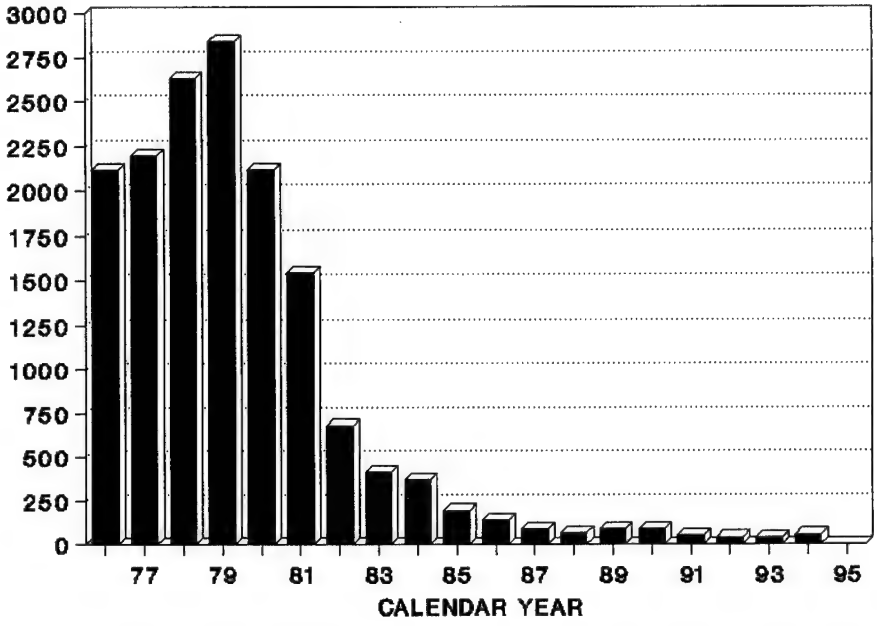


OPERATING AND MAINTENANCE COSTS ($1983)



MULTI-ENGINE PISTON AIRCRAFT TRENDS

AIRCRAFT SHIPMENTS



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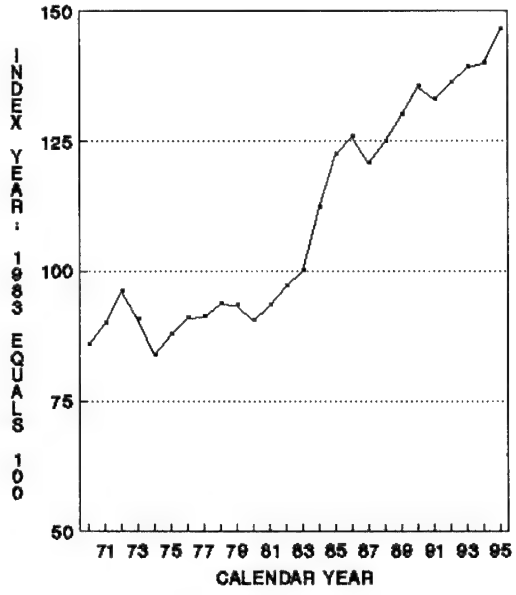
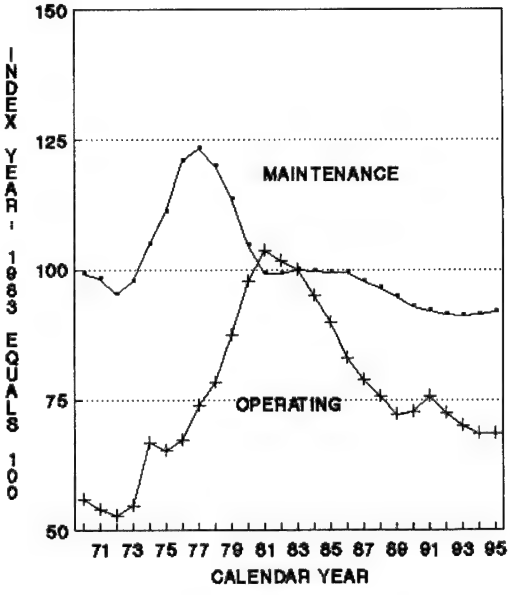
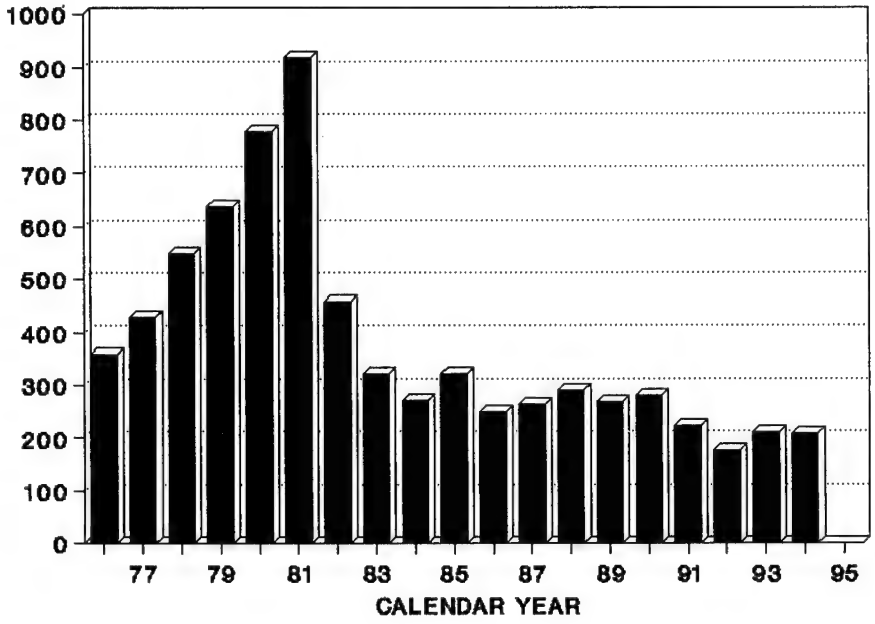


OPERATING AND MAINTENANCE COSTS ($1983)

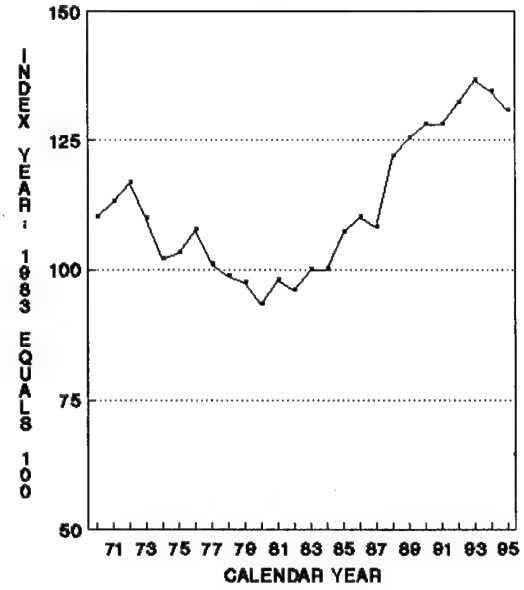


TURBOPROP AIRCRAFT TRENDS

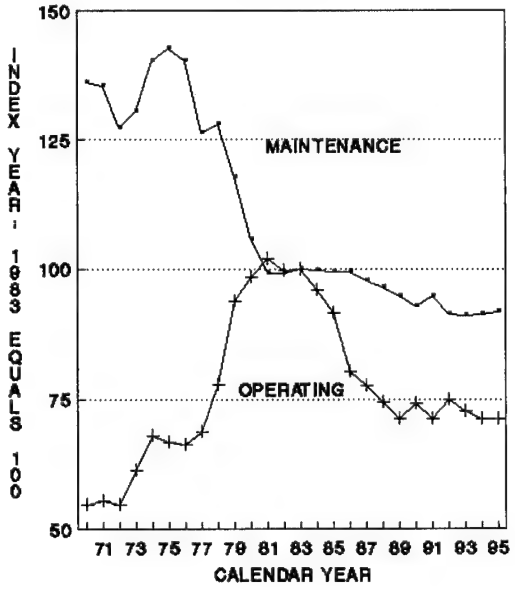
AIRCRAFT SHIPMENTS



AIRCRAFT PRICES ($1983)

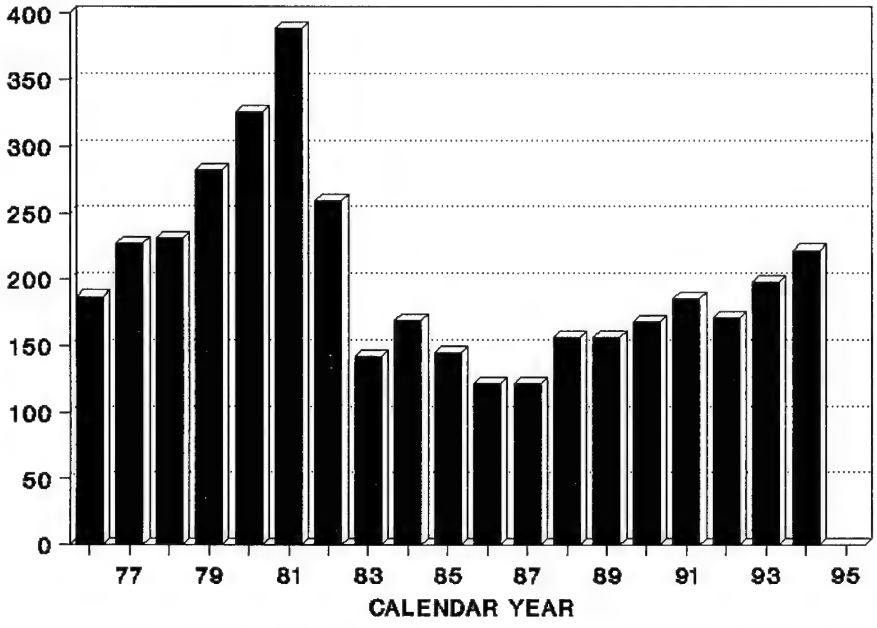


OPERATING AND MAINTENANCE COSTS ($1983)

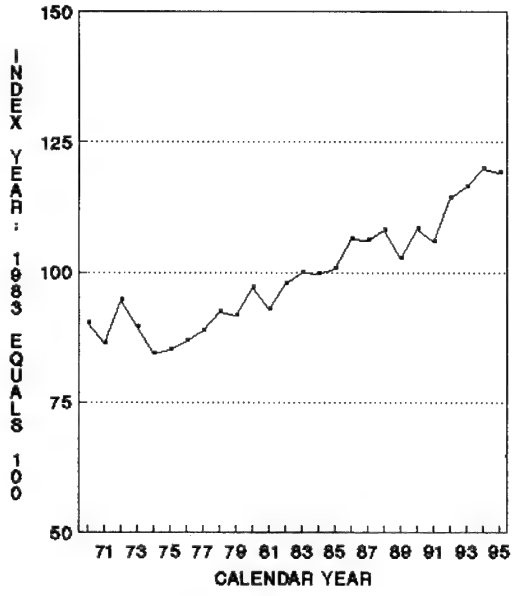


TURBOJET AIRCRAFT TRENDS

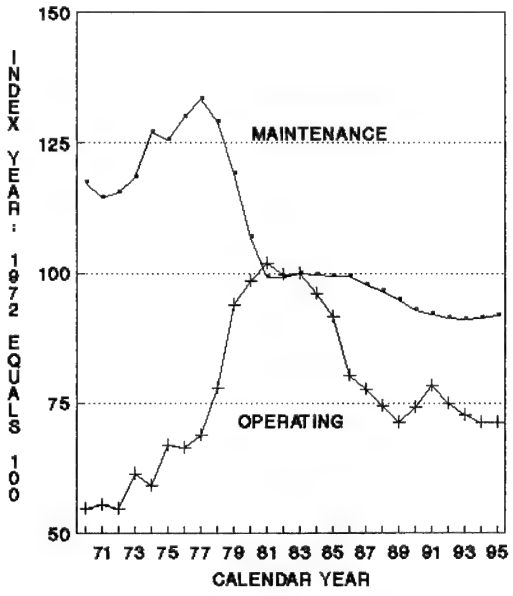
AIRCRAFT SHIPMENTS



AIRCRAFT PRICES ($1983)



OPERATING AND MAINTENANCE COSTS ($1983)



in the production of single engine piston aircraft. The overall aim of the manufacturers should be to improve quality and safety of its product while, at the, same time, reducing the perceived cost of their product to the consumer.

General aviation aircraft manufacturers and component and parts suppliers also need to be more effective in their ability to market their products, while striving to provide their customers with more value for the dollar. General aviation aircraft manufacturers also need to develop more attractive and flexible financing programs to promote the purchase of new aircraft, especially for single engine piston aircraft.

On the airman side, the industry must develop programs or incentives which would entice or attract greater numbers of individuals to want learn to fly. The industry must also develop incentives which would reduce the number of people who drop out of aviation due to time and cost factors. There is nothing more fundamental to increasing the number of new aircraft purchases than a growing pilot population.

However, there are proportionally fewer young people today than in the past, and most of them have less disposable income than in previous generations at a comparable point in time. This may pose the greatest single threat to the future growth in the number of new pilots and the successful resumption of demand for single engine piston aircraft.

To counter this threat, the general aviation industry must make every effort to make it easier to access general aviation flying and improve student starts/access by retaining, and adding to, the number of FBOs. Training cost must also be reduced, while still improving safety. The industry also needs to develop new innovative and alternative training methods which will reduce the time and cost of learning to fly in order to attract and retain new young pilots.

REASONS FOR OPTIMISM

There are a number of bright spots on the horizon which may lead to improvements in the general aviation industry in 1998 and beyond. There is a renewed optimism among the pilot community, aircraft manufacturers, and the industry as a whole which can be directly attributed to the passage of product liability reform legislation in 1994. This renewed optimism is stimulating enthusiasm and new products throughout the industry.

There is renewed interest and optimism among U.S. aircraft manufacturers. Cessna, for example, has committed to reentering the single engine piston aircraft market. When the first new aircraft is rolled out in late 1996 or early 1997, it will be the first new piston engine aircraft Cessna has produced since 1986. Piper Aircraft, which is emerging from Chapter 11 bankruptcy protection, has also began increasing production. And other aircraft manufacturers are also increasing their production schedules for the future to meet the expected renewed demand.

Additionally, the market for good used aircraft has remained strong, and the amateur-built aircraft market has shown steady growth for years. The strength of the used aircraft market, and the success of the kit aircraft market demonstrates that demand still exists for affordable aircraft.

The number of amateur-built experimental aircraft in the general aviation fleet has increased consistently over the last 25 years, from a total of 2,100 in 1970 to almost 23,000 today. It is estimated that about one half of these aircraft are active aircraft. The popularity of the amateur-built aircraft results from several factors, including:

- Affordability. Amateur-built aircraft are substantially less expensive than new production aircraft (aircraft produced under a type and production certificate) because of the large amount of labor that the builder provides.

- Performance. Many amateur-built aircraft have superior speed, maneuverability, fuel economy, and/or handling characteristics compared to light production aircraft. In many cases, the performance benefits are due to features and technologies not available on used, or even most new production airplanes. These benefits include the following:

    1. new technology engines,
    2. low-drag, natural laminar flow wings and carefully contoured fuselage aerodynamics, and
    3. very smooth surfaces held to high tolerances and crafted from advanced composite technologies.

These aircraft represent the test-bed for new technologies which will eventually be introduced in the development and manufacture of the next generation of light general aviation production aircraft.

Although total general aviation activity at FAA towered airports has declined substantially since 1978, general aviation instrument operations at FAA towered airports have actually increased 9.1 percent since that time. Additionally, the number of general aviation aircraft handled at FAA en route centers increased 3.3 percent in 1994, the fourth consecutive year of increase. These two statistics point to continued growth among the more sophisticated general aviation users using the National Airspace System.

In addition, general aviation operations at nontowered airports are up 6.8 percent since 1978. This lends some support to those who contend that much of general aviation has, because of increased commercial air carrier activity, been forced out of many towered airports. This also supports the results of the General Aviation Activity Survey, which shows that personal flying has increased as a percentage of total general aviation activity--from 27.2 percent in 1985 to 34.0 percent in 1994.

FAA Programs/Initiatives

There is the growing climate of partnership between the FAA and the general aviation community. The FAA recently streamlined its certification process for new entry-level aircraft (Primary Category Rule) and this could also increase the production of new small, affordable aircraft.

Another example of cooperation is that 11 general aviation organizations have formed the General Aviation Action Plan Coalition to support implementation of the FAA's "General Aviation Action Plan."

The "General Aviation Action Plan" is based on four principles associated with the President's "reinventing" Government program. These principles include cutting red tape, putting the customer first, empowering employees, and getting back to basics. Within this framework, the Plan sets forth five goals relating to general aviation safety, provision of FAA services to general aviation, general aviation product innovation and competitiveness, system access and capacity, and affordability.

At the risk of over simplification, the goals of the Plan seek to provide for:

- (1) Regulatory relief and reduced user costs achieved through reduced rules and processes and the implementation of a general aviation parts policy that is consistent with maintaining or increasing safety.

- (2) Improved delivery of FAA services achieved by reducing excess layers of management, decentralization of the decision- making process, and giving the general aviation customers a voice in the development of FAA programs and how services are delivered.

- (3) Lastly, the elimination of unneeded programs and processes, and investment of FAA resources in those programs that provide the greatest government productivity and responsiveness to its customers' needs.

There is also a growing effort to unlock general aviation's transportation potential through product innovation. In this area, the FAA and the National Aeronautics and Space Administration (NASA) have collaborated with the general aviation community to implement a research program to bring new technologies to general aviation.

The FAA has spent considerable effort cooperating with the aviation authorities in Russia, China, and elsewhere to develop common aviation standards. These initiatives, combined with efforts by industry, could tap vast new markets for general aviation products in places where general aviation does not currently exist.

Manufacturer and Industry Programs/Initiatives

Manufacturer and industry programs/initiatives include the "No Plane No Gain" campaign sponsored jointly by the General Aviation Manufacturers Association and The National Business Aircraft Association; the Aircraft Owners and Pilots Association's (AOPA) "Project Pilot"; and the National Air Transportation Association's (NATA) "Learn to Fly" program.

The "No Plane No Gain" program is directed at the business community, and is designed to promote the use of general aviation aircraft as an essential tool of business. The thrust of the effort is to show that companies which use GA aircraft in the performance of their day-to-day business are well managed, more efficient, and more profitable than those that do not. The program uses videos, speakers kits, slide shows, and advocacy materials for distribution among the business community to highlight the benefits of general aviation to business, and to the bottom line of the company's balance sheet.

"Project Pilot" and "Learn to Fly" are programs directed at individuals, and are designed to promote the growth in the number of new student starts and general aviation flying.

AOPA's Project Pilot encourages its members to identify individuals that would benefit from special encouragement and assistance in the pursuit of becoming a private pilot. The sponsoring AOPA member then serves as a mentor to the student, offering support and assistance to the student during his or her training. AOPA members/mentors are provided with materials designed to help them to identify students who would benefit form the program. The participating students are also introduced to the program through a special program kit which includes such items as a video on the joy of flying, decals, a special issue of Pilot Magazine, and AOPA membership information.

The mission of NATA's "Learn to Fly" campaign is to increase the number of active GA pilots by increasing the number of student starts and by motivating inactive pilots to return to active flying. The program is a targeted effort designed to promote the benefits of learning to fly. It is designed to stimulate the interest of the targeted audience through advertising and promotional efforts. In addition, it provides interested prospects with fast and easy access to information on how to go about learning to fly. This is accomplished through the use of a toll

free telephone number--(800)-I-CAN-FLY, information packets provided through direct mail response resulting form telephone inquiries, and follow-up calls by participating flight schools in the interested callers zip code area.

Beyond the goal of bringing new pilots into general aviation, both "Project Pilot" and the "Learn to Fly" programs are also interested in rekindling the desire to fly of students who have abandoned their training by encouraging them to complete their certification, as well as to convince licensed pilots who stopped flying to return to active status.

Another program that may stimulate new interest in learning to fly is the "Young Eagles" program sponsored by the Experimental Aircraft Association. This program involves taking young people ages 12 to 14 up on their first flight in a small aircraft. This not only exposes them to their first flight in a small aircraft but could spark an interest in their learning to fly.

RISKS/UNCERTAINTIES

The assumptions of sustained moderate economic growth and stable fuel prices are central to the forecast of growth in the general aviation industry. Other significant factors to be considered are environmental regulations, especially as they relate noise and emission standards and the potential impact on operating costs. The piston powered airplane segment of the general aviation industry is particularly price sensitive. Pilots fly more hours when the economy is expanding. The benefits of FAA and industry initiatives under way to promote the growth of general aviation are more long-term in nature and their impacts will not be felt for several years. This is reflected in the forecasts that follow which predict that the industry will experience several additional years of decline before there is a turn-around

GENERAL AVIATION FORECASTS

The general aviation forecasts discussed in the following paragraphs are based on a set of assumptions, not the least of which is the outlook for moderate and sustained growth in the U.S. economy. The forecasts also assume that legislation enacted in 1994 limiting the liability of manufacturers of general aviation aircraft will not start to beneficially impact the general aviation fleet until the 1997-1999 time frame. Growth in general aviation activity will, to some degree, be driven by an expanding U.S. economy. However, whether the predicted recovery in general aviation actually materializes will depend, to a large extent, on the response of general aviation manufacturers to the statute of liability legislation. If the legislation fails to stimulate the development and production of new general aviation products and services, both the active fleet and hours flown forecasts will be considerably lower than currently forecast.

THE 9TH INTERNATIONAL WORKSHOP ON FUTURE AVIATION ACTIVITY

The Transportation Research Board (TRB), under the sponsorship of the FAA, held its 9th Annual International Workshop on Future Aviation Activity in Washington, DC on September 18-20, 1995. The purpose of the workshop is to assist public and private-sector managers and decision-makers in forecasting the long-term evolution of commercial, business, and personal air transport.

The workshop is attended by participants from government, industry, academic institutions, and

private consulting firms. The program includes eight concurrent discussion panels, including three representing the general aviation community--Light General Aviation, Business Aviation, and Vertical Flight. These panels were tasked with reviewing the March 1995 FAA aviation forecasts and providing their best estimates as to the future growth and direction of trends which are likely to impact their respective aviation sectors.

The output from the three general aviation panels has been used extensively in preparing this year's forecasts of general aviation activity. The findings and conclusions of all eight panels will be available in hard copy from the TRB in early Spring 1996.

ACTIVE FLEET

The active general aviation aircraft fleet is expected to increase slightly (up 0.2 percent annually) over the 12-year forecast period, with the number of active aircraft increasing from 170,600 in 1995 to 179,900 in 2007. The general aviation fleet is forecast to continue to decline during the first two years of the forecast period (to 165,400 in 1997), then increase by almost 1,200 aircraft annually over the remaining 10 years of the forecast period. The decline during the 1996-97 period is driven primarily by retirements in the piston engine fleet.

The number of single engine aircraft is projected to decline from 123,332 aircraft in 1995 to 117,800 aircraft in 1997, then increases by approximately 900 aircraft annually over the remaining 10 years of the forecast period. The single engine piston fleet is expected to total 126,400 in 2007. The decline during the 1996-97 period is largely due to the expected large numbers of retirements and/or shifts to nonactive status of many of the older aircraft in the single engine piston fleet. The retirement of these older aircraft is expected to continue throughout the forecast period. However, after 1997, the older piston aircraft retired from the fleet may be replaced by newer technology aircraft that are, in part, a response to the passage of the General Aviation Revitalization Act.

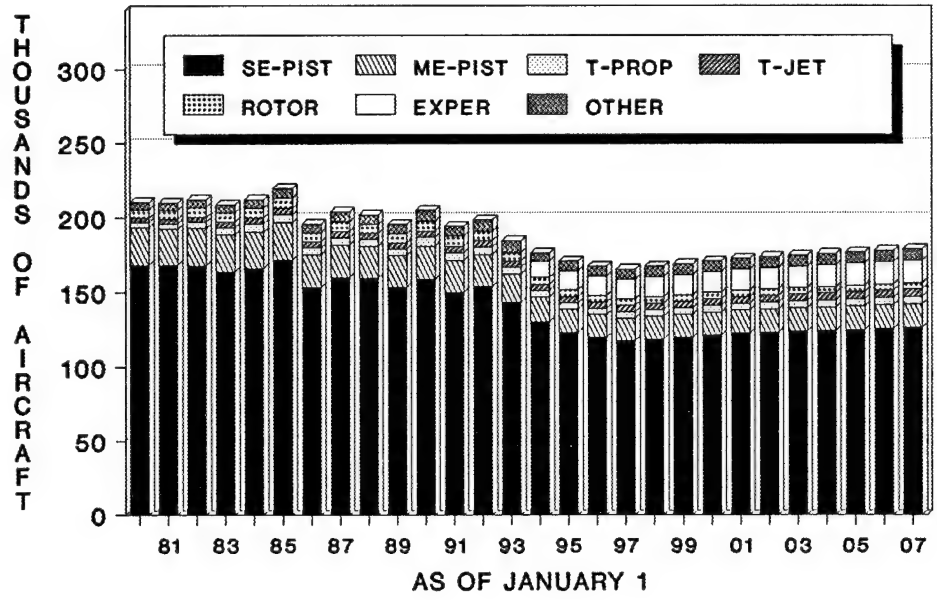
Multi-engine piston aircraft are expected to increase by just over 200 aircraft during the forecast period, from 15,577 in 1995 to 15,800 in 2007. The multi-engine piston fleet is forecast to decline in absolute numbers during the early years of the forecast period, reaching a low of 14,900 aircraft in 1997. This decline is also due to the retirement of many of the older aircraft. Beginning in 1998, the multi-engine piston fleet is expected to increase by just under 100 aircraft annually over the remaining years of the forecast period as purchases of new technology aircraft outpace retirements.

After remaining basically constant in 1996, the active turbine-powered fleet is expected to grow throughout the remainder of the forecast period (1.5 percent annually), largely the result of an expanding U.S. economy. The number of turboprop aircraft grows from 4,207 in 1995 to 5,000 in 2007. Turbojet aircraft increase from 4,073 in 1995 to 4,900 in 2007.

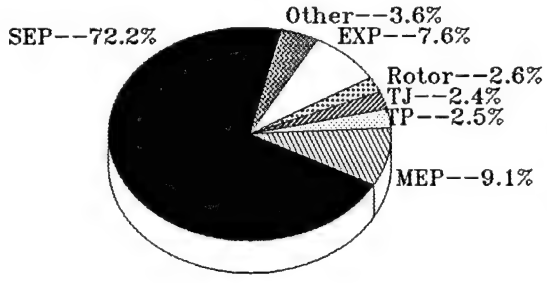
The rotorcraft fleet is forecast to decline slightly (0.6 percent annually) over the 12-year forecast period, from 4,390 in 1994 to 4,100 in 2007. All of the decline occurs in the piston rotorcraft fleet which declines from 1,381 aircraft in 1994 to 1,100 aircraft in 2007. The turbine rotorcraft fleet is expected to remain constant at approximately 3,000 aircraft throughout the forecast period.

Experimental aircraft, are forecast to increase from 12,852 in 1995 to 15,000 in 2007, an average annual growth rate of 1.3 percent. Gliders and lighter-than-air aircraft are forecast to increase by 1.8 percent annually, growing from 6,169 in 1995 to 7,700 aircraft in 2007.

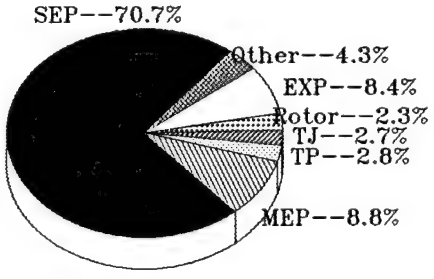
ACTIVE GENERAL AVIATION AND AIR TAXI AIRCRAFT



PERCENT BY AIRCRAFT TYPE



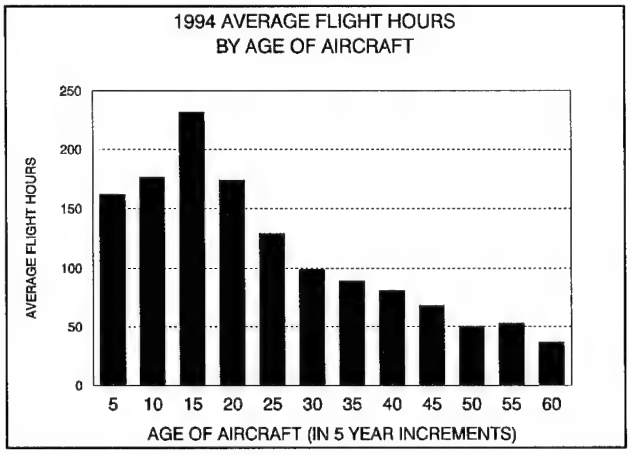
1995



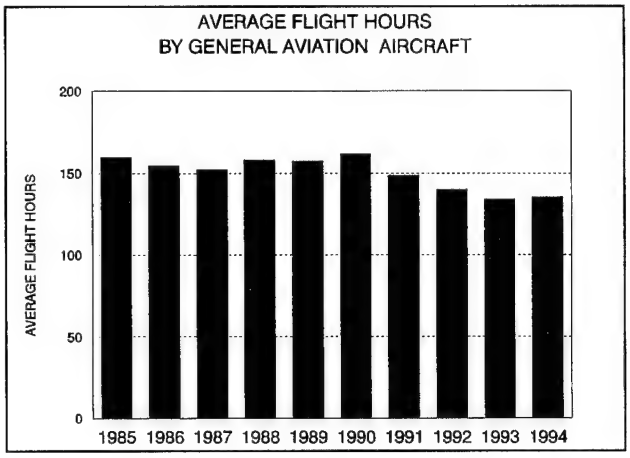
2007

AIRCRAFT UTILIZATION

For years it has been assumed that the aging of the general aviation fleet was one of the main determinants of declining utilization among general aviation aircraft. It is estimated that the average age of the general aviation fleet was 26 years in 1994 (down from 27 years in 1993), with piston aircraft accounting for the majority of the aging fleet. Data from the 1994 survey showed that aircraft utilization peaks at 232 hours between 11 and 15 years and then declines gradually thereafter. The aging of the fleet is certainly one of the main causes of declining utilization among general aviation aircraft.



During the 1990-93 time period, the average number of hours flown by general aviation aircraft declined significantly (17.1 percent), from 162.1 to 134.4 hours. Part of the decline can be attributed to the aging of the general aviation fleet; however, an equally large part is assumed to be the result of the U.S. economic slowdown/recession in 1990-91 and slow recovery in 1992. While there was a slight increase in utilization in 1994, it is unclear as to how much of the increase was the result of the strong U.S. economy, and how much was due to the fact that experimental aircraft (approximately 53 hours per aircraft in 1994) is now separated from the other aircraft categories.



With the exception of the turboprop aircraft, all major aircraft categories achieved an increase in utilization in 1994. The average number of hours flown by single and multi-engine piston aircraft increased by 1.3 and 9.4 percent, respectively. Turbojet utilization was up 3.7 percent during the same period. The largest increase in utilization occurred among rotorcraft (up 15.1 percent), with turbine utilization up 12.9 percent and piston utilization up 15.5 percent.

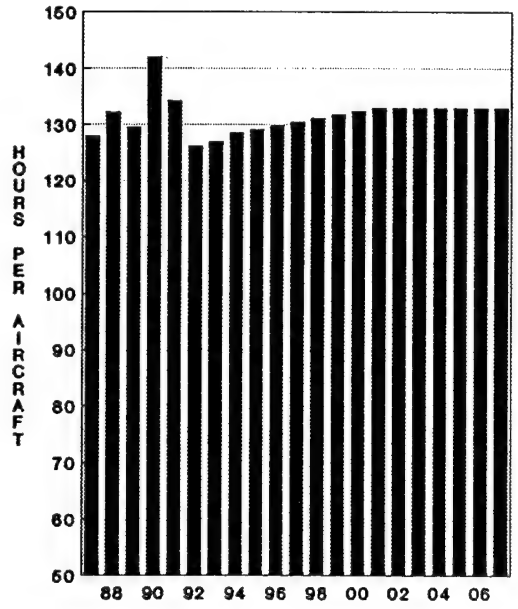
Based on economic assumptions that forecast moderate and sustained growth throughout the 12-year forecast period, it has been assumed that the average hours flown per aircraft will gradually return to utilization levels achieved prior to the 1990/1991 economic recession.

Single engine piston aircraft utilization is forecast to increase from 129.1 hours in 1995 to 133.0 hours in 1999, then remain at this level throughout the remainder of the forecast period. Multi-engine piston aircraft utilization is forecast to increase gradually (0.4 percent annually) over the forecast period, from 165.8 hours in 1995 to 173.0 hours in 2007.

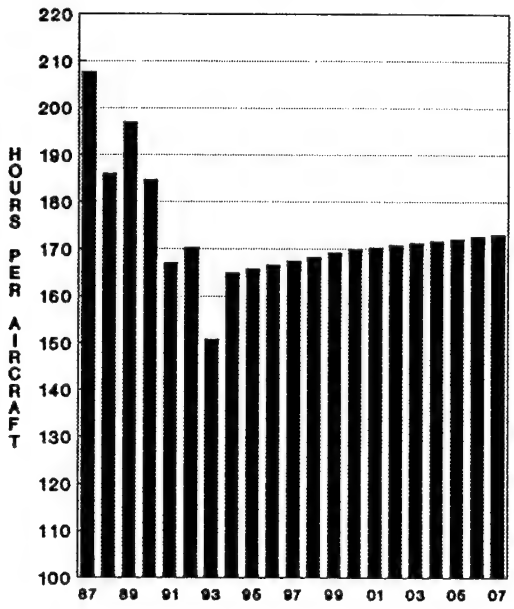
The average hours flown by turbine-powered aircraft is forecast to increase at an average annual rate of 0.6 percent annually over the forecast period. Turboprop aircraft utilization increases from 264.9 hours in 1995 to 281.3 hours in 2007. Turbojet hours grow from 310.5 to 337.9 during the same time period.

GENERAL AVIATION AIRCRAFT UTILIZATION

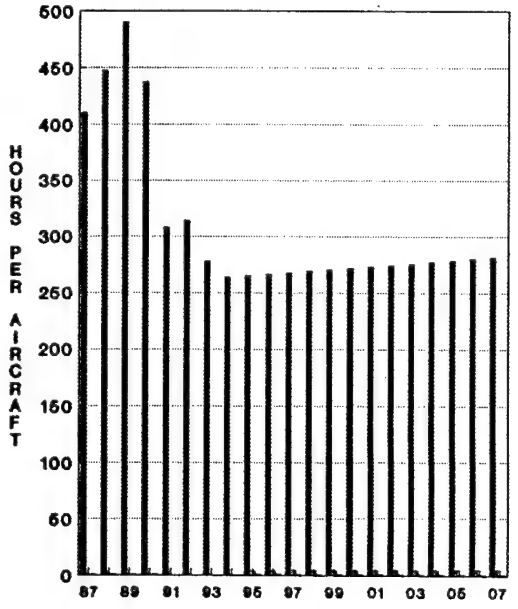
SINGLE ENGINE PISTON



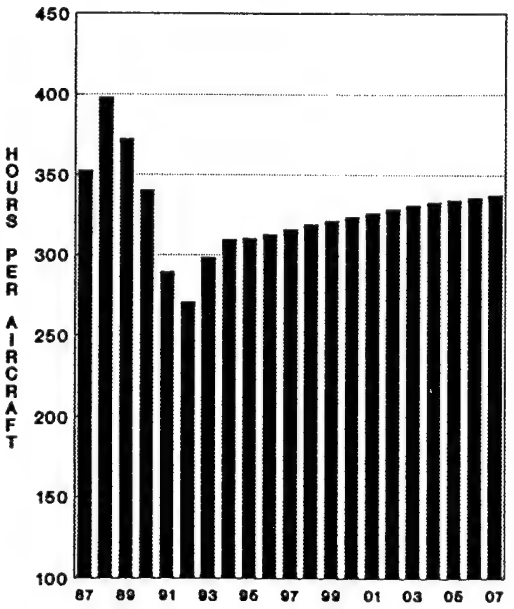
MULTI-ENGINE PISTON



TURBOPROPS



TURBOJETS



There is a small probability that the relatively large utilization gains recorded by rotorcraft in 1994 could be a function of which owners/operators responded to the survey. Therefore, it was felt that additional future year's data is needed to confirm whether the increase in 1994 was part of a longer term trend or an anomaly in that year. Therefore, the forecast uses average utilization rates for both piston and turbine rotorcraft that have been developed over a period of time. It is felt that these average values may be more reflective of the true utilization rates and are therefore used as the base year for forecasting future year utilization rates. As such, it appears that rotorcraft fleet utilization declines in 1995 when, in fact, the forecast assumes a slight increase. Piston rotorcraft utilization increases from 237.6 hours in 1995 to 241.0 hours in 1999, and remains at this rate throughout the remainder of the forecast period. Turbine rotorcraft utilization increases gradually over the entire forecast period, from 535.8 hours in 1995 to 594.7 hours in 2007.

HOURS FLOWN

Although the active general aviation fleet is expected to increase only slightly over the forecast period (up 0.4 percent annually), the projected increases in aircraft utilization result in a relative increase in the number of hours flown double (up 0.8 percent annually) that of the projected increase of the active fleet. General aviation hours flown are projected to increase from 23.3 million in 1994 to 25.6 million in 2007.

Single engine piston aircraft hours flown are forecast to decline from 15.5 million in 1995 to 15.2 million in 1997, then increase gradually (0.7 percent annually) over the remaining 10 years of the forecast period, reaching 16.3 million in 2007. Multi-engine piston aircraft hours are expected to increase from 2.5 million in 1995 to 2.7 million in 2007, a rate of 0.6 percent annually. Turbine-powered aircraft hours flown are projected to increase from 2.3 million in 1995 to 3.1 million in 2006, an annual growth rate of 2.5 percent. Rotorcraft hours flown are expected to increase at an annual rate of 0.8 percent over the same time period, from 1.9 to 2.1 million.

Experimental aircraft hours flown are forecast to increase from 0.7 million in 1995 to 0.9 million in 2007, an annual growth rate of 2.1 percent. Hours flown by gliders and lighter-than-air aircraft are projected to increase by 1.9 percent annually, from 0.4 to 0.5 million over the forecast period.

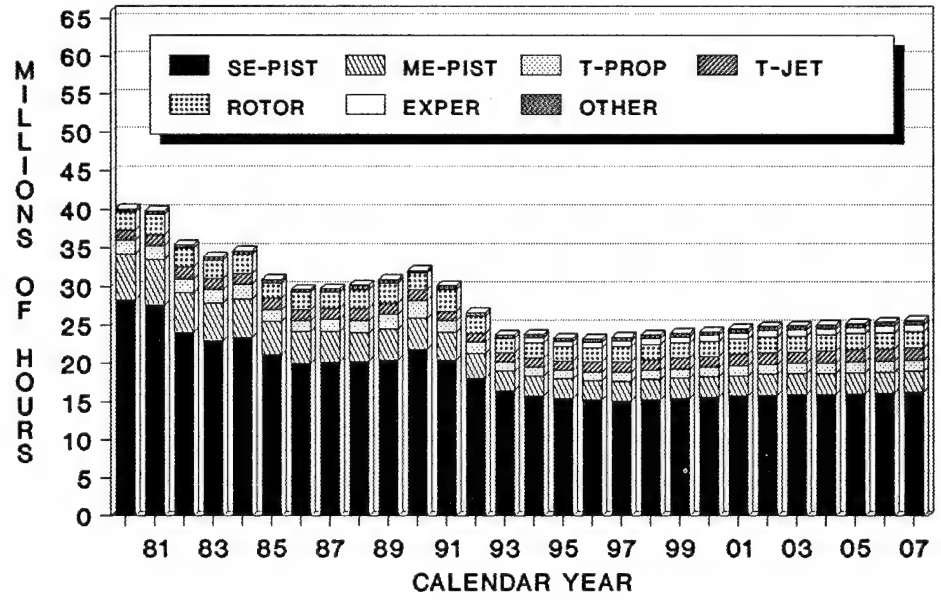
PILOT POPULATION

The total pilot population is projected to increase from 654,088 in 1995 to 713,900 by 2007, a 0.7 percent annual growth rate. Student and recreational pilots are forecast to decrease from 96,495 in 1995 to 94,900 in 1997, and then increase gradually (1.4-percent annually) over the remainder of the forecast period, reaching 108,700 in 2007. While much of this growth is in response to U.S. economic growth, it also assumes some growth in general aviation pilot training and flight schools which, in turn, implies future growth in the industry.

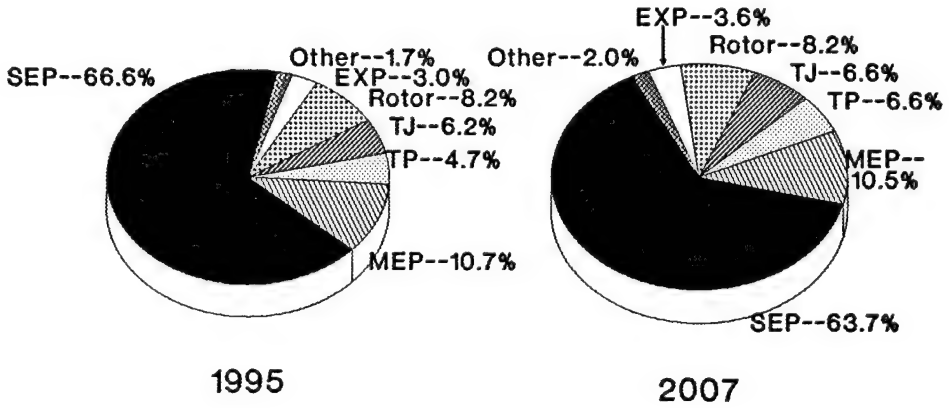
The projected 12-year growth for selected pilot categories include: private pilots, 0.6 percent annually; commercial pilots, 0.4 percent annually; airline transport pilots, 1.5 percent annually; helicopter (only), 0.6 percent annually, glider (only), 0.7 percent annually.

The number of instrument rated pilots is expected to increase from 302,300 in 1995 to 333,900 in 2007, a 0.8 percent annual rate of growth. In 1995, 46.2 percent of all pilots were instrument rated. By 2007, the percentage of

ACTIVE GENERAL AVIATION AND AIR TAXI HOURS FLOWN

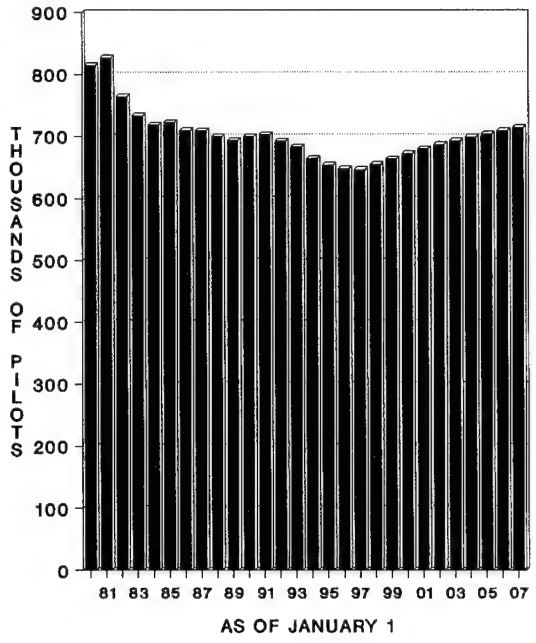


PERCENT BY AIRCRAFT TYPE

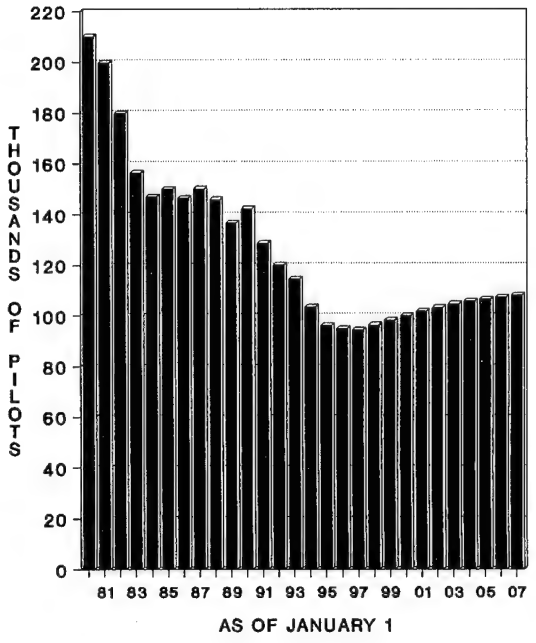


ACTIVE PILOT TRENDS AND FORECASTS

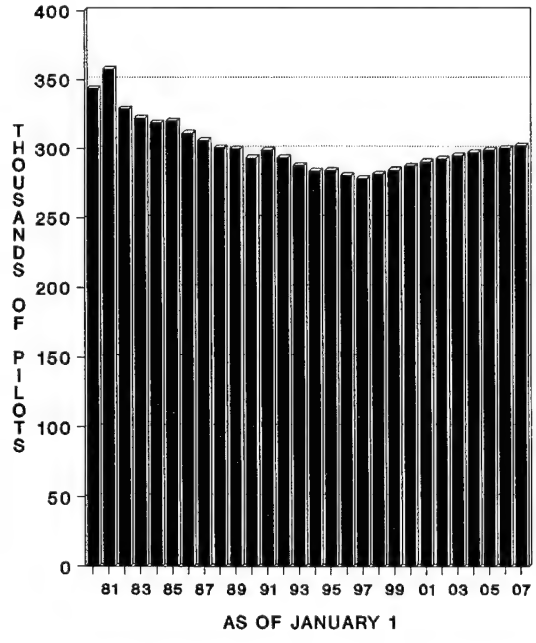
TOTAL PILOTS



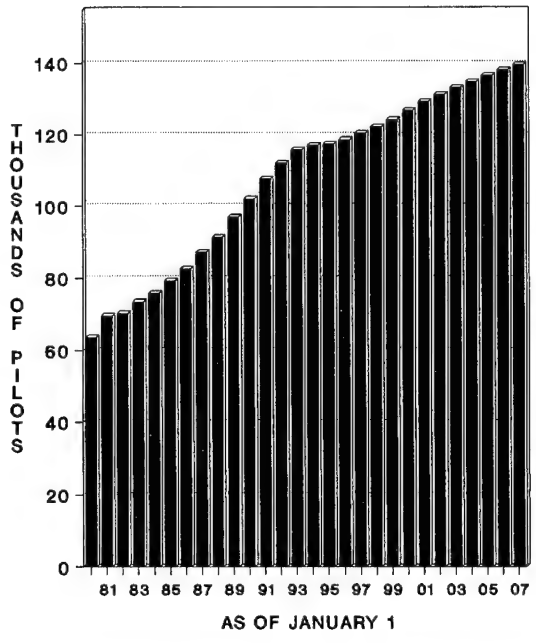
STUDENT PILOTS



PRIVATE PILOTS



AIRLINE TRANSPORT PILOTS

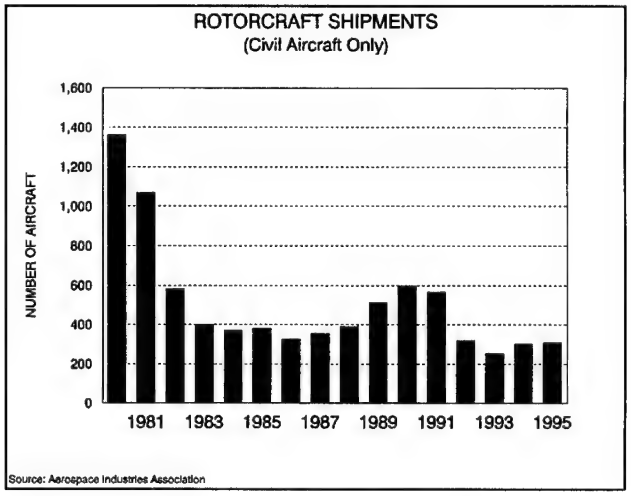


instrument rated pilots is projected to increase to 46.8 percent. This implies continued increases in the sophistication of the aircraft and pilots using the National Airspace System.

CHAPTER VI

HELICOPTERS

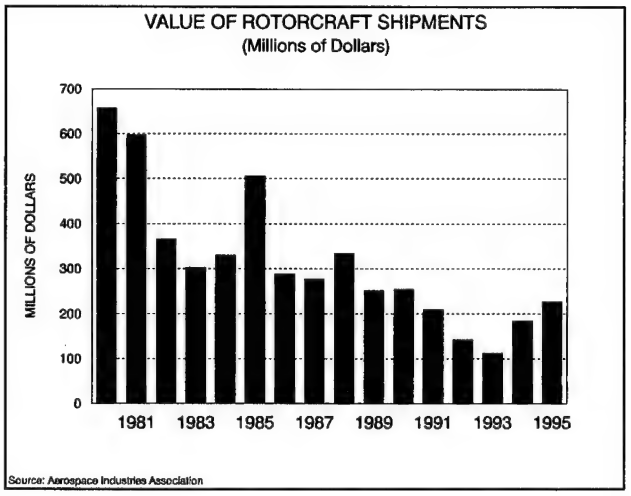
Helicopters participate in a wide and diverse range of aviation activity. These activities include sight-seeing, crop dusting, fire fighting, personal transportation, emergency medical services, transporting personnel and supplies to off-shore oil rigs, traffic reporting, corporate or business transportation, and the lifting of heavy loads. Recently, a helicopter was used to remove the statue from the top of the United States Capitol dome for cleaning and other repairs. All of these activities are important, contributing to the nation's economy.



REVIEW OF 1995

SHIPMENTS

Preliminary data for calendar year 1995 indicate that shipments of new U.S. civil helicopters will total 314 units. Compared to the 308 units shipped in 1994, this represents an increase of 1.9 percent. However, when compared to the 1,366 units shipped in 1980, it shows that the market for civil helicopters has declined by 77 percent.



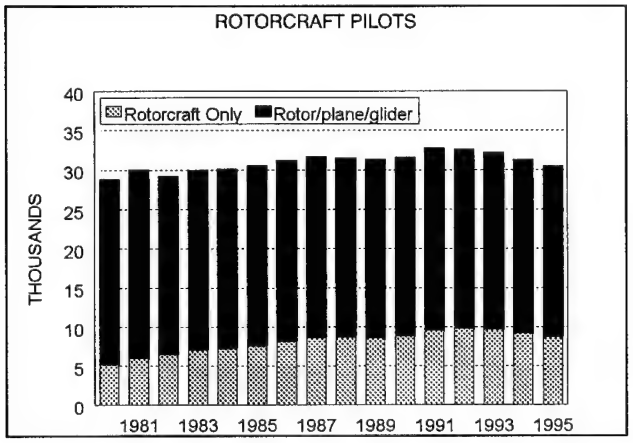
The value of the helicopter shipments totaled $227 million in 1995, an increase of 22.7 percent over billings of $185 million in 1994 The

average value increased from $601,000 in 1994 to $723,000 in 1995. The large increase in the average value reflects an increase in the shipment of larger multi-engine turbine helicopters. These units are being used to replace aircraft in executive and off-shore service.

Shipments have increased in each of the last 3 years suggesting that perhaps the market may have bottomed out in 1992/93. Indeed, the Aerospace Industries Association's *1995 Year-End Review and Forecast* projects a continued increase in the market for helicopters in 1996. Civil helicopter shipments are forecast to total 365 units in 1996 (up 16.2 percent) fed mainly by the small two-seater piston personal or training use rotorcraft. The sales value of these aircraft is expected to total $268 million in 1996, an increase of 18.1 percent.

PILOTS

The total number of rotorcraft pilots decreased from 31,270 in 1994 to 30,448 in 1995, a decline of 2.6 percent. This continues a downward trend that started in the early 1990s. and parallels the trend in total pilots. The number of pilots who are certificated to fly only a rotorcraft also declined--from 9,168 in 1994 to 8,719 in 1995, a 4.9 percent decrease



The total rotorcraft pilot population includes pilots who are certificated to operate only rotorcraft (helicopters and gyrocopters) and those that may operate a rotorcraft and an airplane and/or a glider. The rotorcraft pilot counts reported in Table 24 (Chapter IX) are pilots that are certificated to operate only rotorcraft.

1994 GENERAL AVIATION/ AIR TAXI ACTIVITY SURVEY

The historical rotorcraft active fleet and hours flown discussed in this chapter are derived from the General Aviation/Air Taxi Activity Survey that is conducted annually by the FAA's Statistics and Forecast Branch The fleet and hours data are estimated using a sample from the FAA Aircraft Registry and are subject to variation due to errors in the Registry and sampling error.

A top-to-bottom review of the survey has resulted in several changes that have caused some discontinuities in the rotorcraft historical series beginning in 1993. First, commuter aircraft were excluded from the survey in 1993 for the first time. Second, two new use categories--sight seeing and external load--were added. The sight seeing activity was included in either the aerial observation or air taxi activity in prior years. The external load activity was previously included in the other work category,

A new rotorcraft type category was added. Turbine rotorcraft, formerly a single category, was divided into single-engine and multi-engine. Additionally, all aircraft with an experimental airworthiness certificate were grouped together. Prior to 1993, these aircraft had been included within the other aircraft groupings. The experimental aircraft account for about 20 percent of the rotorcraft fleet and fly substantially fewer hours each year. The elimination of these aircraft had a significant

impact on the activity estimates in 1994. The total population of rotorcraft decreased and therefore the number of active aircraft and flight hours decreased. However, the average hours per aircraft increased. Experimental rotorcraft are now in the "Experimental" aircraft type.

The 1994 survey results for active rotorcraft and hours flown are listed in Table 26 (Chapter IX). The 1994 survey results for active rotorcraft are reported as January 1, 1995, totals in the table. The 1994 survey results for rotorcraft hours flown are reported as calendar year 1994.

FLEET AND HOURS FLOWN

As of January 1, 1995, there were 4,389 active civil rotorcraft in the United States, down from 4,510 in 1994--a 2.7 percent decrease. In 1995, active turbine rotorcraft increased 5.1 percent, 3,009 compared with 2,864 in 1994. Rotorcraft flew an estimated 2.0 million hours in 1994, a 9.5 percent increase over 1993's 1.8 million hours.

In 1994, the rotorcraft fleet flew an average of 459 hours per active aircraft. Turbine rotorcraft averaged 571 hours per aircraft. The data indicate an increase in the utilization of the helicopter fleet of 60 hours or 15.1 percent for all helicopters and a 13.0 percent increase for turbine, primarily in the multi-engine turbines. Utilization rates in the next years are needed to confirm this as a long-term trend. This increase may possibly depend on which helicopter owners/operators responded to the survey.

PRIMARY USE OF AIRCRAFT

The leading use (22 percent) of all rotorcraft is aerial observation (pipeline patrol, traffic reporting, search and rescue, etc.) followed by air taxi at 15 percent. For piston powered rotorcraft, the leading use is instructional flying (27 percent) with personal and aerial observation a close second and third. The primary use for the multi-engine turbine rotorcraft is air taxi.

In terms of the number of hours flown aerial observation and air taxi rank a close first and second for all helicopters--459,000 and 430,000 hours respectively. For piston rotorcraft, the instructional use has the most hours (166,000) with aerial observation second. Even though the personal use is the second most popular use of the piston powered rotorcraft, the utilization rate is fairly low, so the number of flight hours ranks fifth. About 32 percent of all rotorcraft air taxi hours are flown by the multi-engine turbines.

FUEL CONSUMED

In 1994, fuel consumed by rotorcraft was estimated to be 55.1 million gallons, an increase of 12.2 percent over 1993 reflecting the increase in flight hours. All of the rise in fuel consumption was in jet fuel (50.0 million gallons in 1994 compared to 43.5 million in 1993). The use of aviation gasoline declined by 8.9 percent or 500, 000 gallons.

FUTURE ISSUES

ATLANTA PROJECT

In preparation for the 1996 summer Olympic Games in Atlanta, Georgia, the FAA is participating with the Helicopter Association International (HAI), the Federal Emergency Management Agency, and business and government groups in the State of Georgia to perform a demonstration of vertical flight transportation in high-volume, urban-area traffic

conditions. The Atlanta Shorthaul Transportation System project may involve up to 150 aircraft, primarily helicopters, in the movement of people and cargo throughout the Olympics area. To do so, the project will develop a system of helistops and low-altitude routes that will use global positioning system equipment and advanced communications. Major efforts will focus on such essentials as community acceptance and multi-modal interfaces. These developments may lead to a viable helicopter transportation system in Georgia and elsewhere, and a consequent growth in the rotorcraft fleet, depending on passenger demand and continued improvement in helicopter costs and reliability. Many historical constraints to such transportation systems may be mitigated by the Atlanta project.

SURPLUS MILITARY HELICOPTERS

The U.S. military is undertaking an effort to reduce its unneeded aircraft inventory. The military has plans that may result in the transfer up to 3,000 helicopters to civil, commercial, and international military customers at very low prices by the year 2000. However, because of the uncertainty of this transaction, it was not taken into consideration in developing the current forecast.

It is unclear at this time how many of these aircraft will actually be transferred from the military to the active U.S. civilian fleet. Industry experts do not expect this activity to have a significant impact on either the active fleet or the annual hours flown since any aircraft that do enter the fleet will be to a replacement for older aircraft. This activity will be monitored closely for its potential impact on the rotorcraft fleet and will be incorporated into the forecast if, and when, the situation warrants. The negative impact on manufacturers of new airframes and engines may be somewhat offset by increased sales of replacement parts. As these customers, especially the new users, develop an appreciation of the helicopter's capabilities, it is possible that this transfer of surplus aircraft may stimulate new sales in the long run.

INSURANCE COSTS

According to a recent survey conducted by HAI, premiums for helicopter hull and liability insurance doubled between 1993 and 1995 and now account for up to 11 percent of many commercial operators' expenses. Influences on the rate increase include the recent increases in accidents and size of awards paid out on claims. This increase in premiums may contribute to a reductions in fleet flight hours as well as the shut down of some small operators, who are disproportionately impacted by these costs.

HELICOPTER FORECASTS

The forecasts of the rotorcraft fleet and flight hours discussed in this section are presented in tabular form in Table 26 in Chapter IX. They were derived from discussions with the helicopter industry experts invited to participate on the Vertical Flight Panel at the Transportation Research Board's (TRB) Ninth International Workshop on Future Aviation Activities on September 18 - 20, 1995. The Panel focused on the supply of helicopters and identified three drivers of supply: fleet utilization, attrition, and new units.

The preliminary report of the Panel was circulated among other industry representatives who could not attend the conference and was revised to incorporate their input. The final report reflects the consensus of a broad base of

industry executives. A copy of the report will be available from the TRB in Spring 1996.

ACTIVE FLEET

The active rotorcraft fleet is expected to total 4,100 in 2007. Compared to the 4,389 active aircraft in 1995, this represents an average annual decline of 0.6 percent in the active rotorcraft fleet during the forecast period.

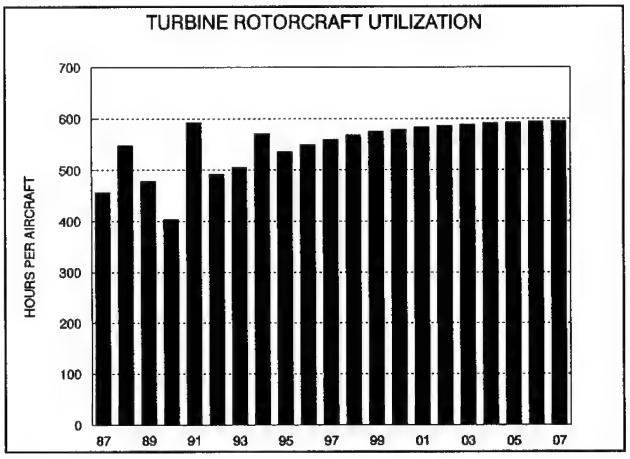
The small decrease in the size of the active fleet is expected to occur primarily in the piston powered rotorcraft. That portion of the rotorcraft fleet is expected to decline from 1,380 in 1995 to 1,100 in 2007, an average annual decline of 1.8 percent.

The number of turbine powered rotorcraft is expected to total 3,000 by 2007. This is virtually unchanged from 1995 and assumes that new units will equal attrition. Because of the decrease in the number of piston powered rotorcraft, turbine powered rotorcraft are expected to account for 73.2 percent of the rotorcraft fleet in 2007 compared to 68.6 percent in 1995.

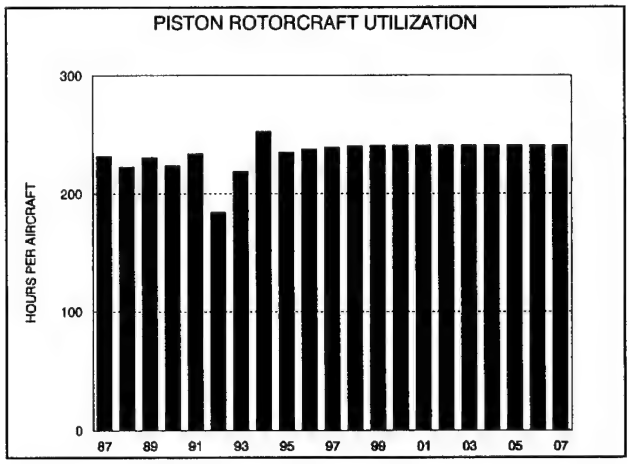
UTILIZATION

The annual utilization rate for the turbine powered helicopters is expected to increase from 535.8 hours in 1995 to 594.7 hours in 2007, an average annual increase of 0.9 percent. The rising cost pressures of owning a turbine helicopter that is not used in the optimum manner, along with increasing professionalism in the management of commercial helicopter operations, will cause owners/operators to use their helicopters more each year

The volatility of the average annual hours in the historical series due to the response variability and sampling error was smoothed and the forecast was derived from that smoothed data



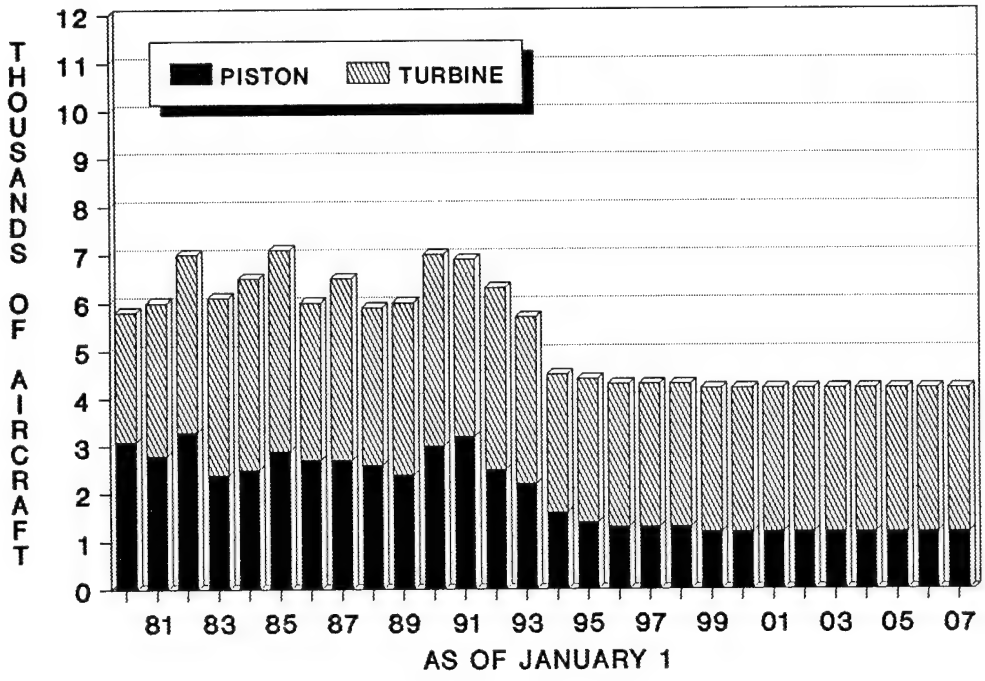
Average annual hours for the piston fleet are expected to increase slowly from 235.2 hours in 1995 to 241 hours in 1999 and remain there for the forecast period.



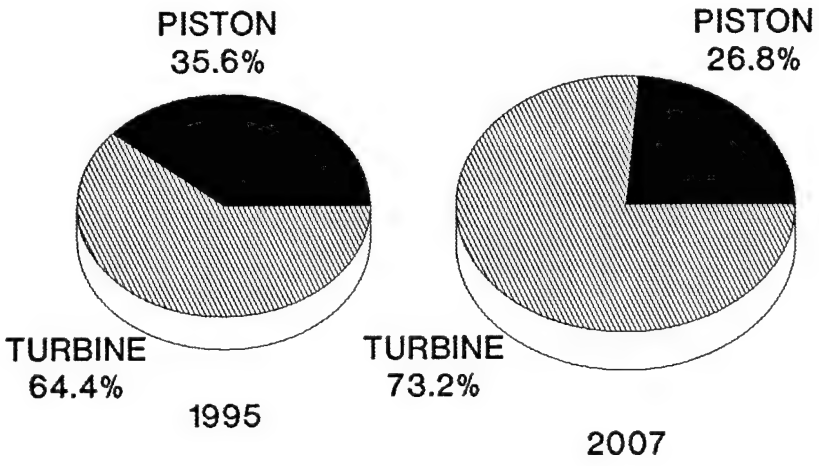
FLIGHT HOURS

Although the active fleet is expected to decline, the utilization rates of these aircraft are projected to increase. Flight hours are expected to increase from 1.9 million in 1995 to 2.1 million in 2007. This represents an average annual growth rate of 0.8 percent.

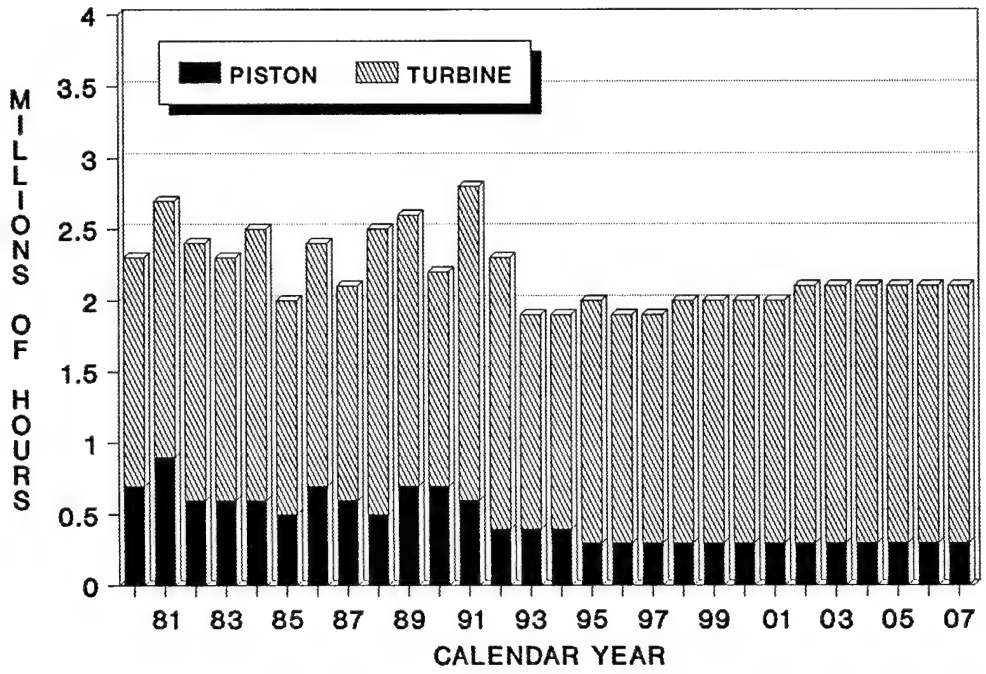
ACTIVE ROTORCRAFT



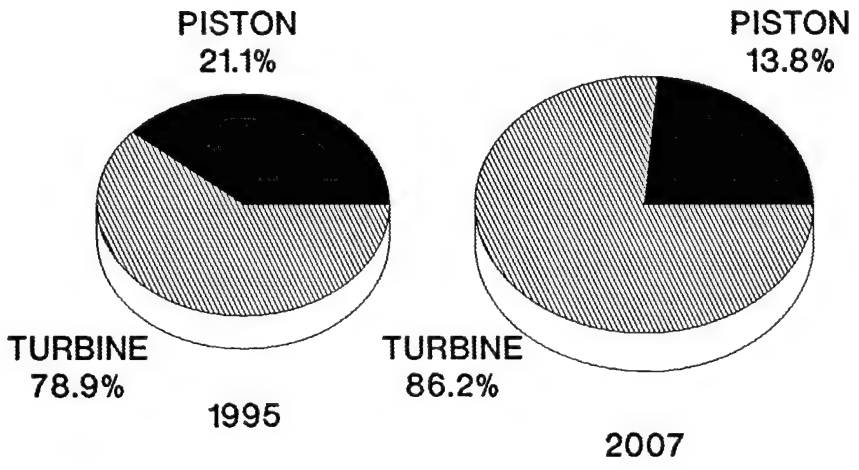
PERCENT BY AIRCRAFT TYPE



ROTORCRAFT HOURS FLOWN



PERCENT BY AIRCRAFT TYPE



The growth in the flight hours will occur totally in turbine powered rotorcraft. These hours are projected to increase by approximately 12.5 percent during the forecast period, reaching 1.8 million by 2007. This represents an average annual growth 1.0 percent. between 1995 and 2007.

Flight hours for the piston powered portion of the rotorcraft fleet are expected to remain constant at 300,000 hours throughout the forecast period. The decrease in the number of piston powered helicopters and the projected stability in flight hours over the forecast period reflects an increasing level of utilization of the piston powered portion of the rotorcraft fleet.

FUEL CONSUMED

In 1995, fuel consumption by rotorcraft was estimated to have totaled 53.6 million gallons. Piston powered helicopters consumed 5.1 million gallons, while turbine powered helicopters consumed 48.5 million gallons. By 2007, fuel consumption by rotorcraft is pro-jected to total 57.5 million gallons, 7.3 percent higher than the 1995 level. This represents an average annual growth in fuel consumed of 0.6 percent during the forecast period. The growth in rotorcraft fuel consumption is expected to come totally from the growth in use of turbine powered helicopters. Fuel consumed by turbine powered helicopters is forecast to reach 52.4 million gallons by 2007, an average annual growth rate of 0.6 percent. Fuel consumed by piston powered helicopters is expected to remain constant at 5.1 million gallons during the forecast period.

CHAPTER VII

FAA WORKLOAD MEASURES

The FAA provides the aviation community with three distinct air traffic services: (1) air traffic control tower service at selected airports (352 as of September 30, 1995); (2) traffic surveillance and aircraft separation by air route traffic control centers (22 in FY 1995); and (3) flight planning and pilot briefings at flight service stations (92 in FY 1995). All four aviation system user groups--air carriers, commuters/air taxis, general aviation, and military--use these FAA operational services to enhance the flow and safety of aviation traffic.

Because the four aviation system user groups differ in the demands they impose on the air traffic system, multiple indicators are used to describe the total FAA operational workload. No single measure typifies past trends or future demand for the services provided by the FAA.

For the remainder of this chapter, all specified years are fiscal years (October 1 through September 30), unless designated otherwise.

REVIEW OF 1995

During 1995, a total of 50 FAA towered airports were converted to contract tower status. The removal of the 50 airports from FAA air traffic counts makes comparisons to previous year's activity levels difficult, if not impossible. To overcome these discontinuities, the FAA is reporting air traffic activity at FAA and contract tower facilities on both an individual as well as a combined basis. Activity at FAA Air Route Traffic Control Centers is not affected by the tower conversions.

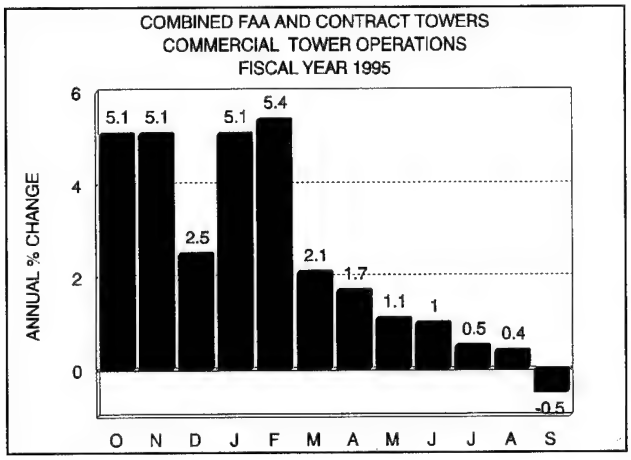
TOWER ACTIVITY

Combined FAA and Contract Towers

Aircraft activity at the 446 FAA and contract tower airports totaled 62.5 million operations in 1995, up 0.3 percent from 1994. During the last decade (1985 to 1995), towered airport activity has registered increases in all but three years.

The level of activity recorded at all towered airports in 1995 remains 2.3 percent below the operation counts recorded (64.0 million) during the 12-month period immediately preceding the August 1981 air traffic controllers' strike (hereafter referred to as the pre-strike period).

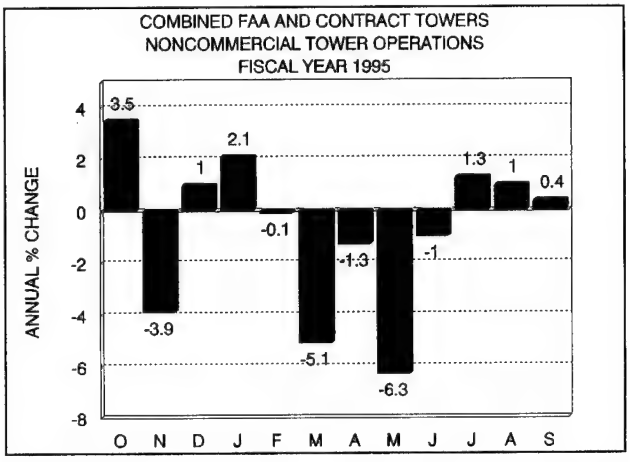
Since 1982, there has been strong demand by commercial aviation services. Commercial activity (the sum of air carrier and commuter/air taxi operations) is up 69.5 percent (4.1 percent annually) since 1982.



Commercial activity increased 2.1 percent in 1995, based on strong growth in air carrier activity. Air carrier activity at towered airports (13.7 million operations) increased 3.8 percent. This relatively large increase in air carrier operations is largely due to the growth of new-entrant low-cost carriers in the short-haul markets.

Commuter/air taxi activity remained level in 1995 due, in part, to the temporary grounding of all ATR aircraft during the winter of 1994-1995. During the past decade, commuter/air taxi activity at towered airports has grown at an average annual rate of 4.0 percent, from 6.9 million operations in 1985 to 10.2 million in 1995. Much of the growth in past years is the result of commuter code-sharing and schedule tie-in agreements with the larger commercial air carriers. In addition, growth in recent years has also come from air carrier restructuring and the giving up of markets to commuters.

Noncommercial activity (the sum of general aviation and military operations), on the other hand, has declined 0.3 percent annually during the past decade. In 1995, noncommercial activity totaled 38.6 million operations, down 0.8 percent from 1994 activity.



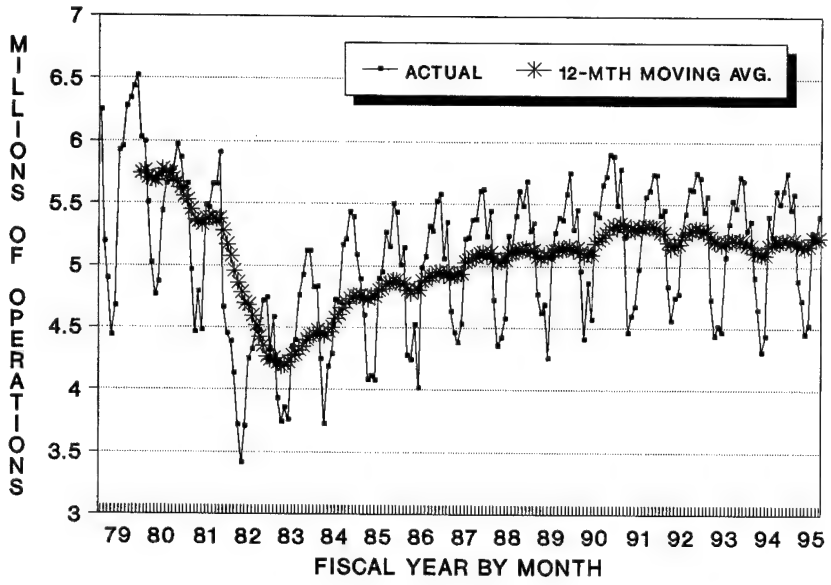
After recording increased activity counts in six of the nine years following the 1981 air traffic controllers' strike, general aviation activity has declined for the past five consecutive years. General aviation activity totaled 36.0 million operations in 1995, a 10.4 percent decline from 1990. In fact, the 1995 operations count was only 76.4 percent of general aviation's pre-strike level of 47.1 million operations.

After increasing by 6.2 percent during the 1989-90 time period, the number of local general aviation operations has declined 11.7 percent during the past 5 years, reflecting, in part, the continuing decline in student training. Itinerant general aviation operations declined by 0.9 percent in 1995 to 20.9 million. Itinerant operations in 1995 were at 76.0 percent of pre-strike activity levels (27.5 million), while local operations were at 78.2 percent of the pre-strike level (19.3 million).

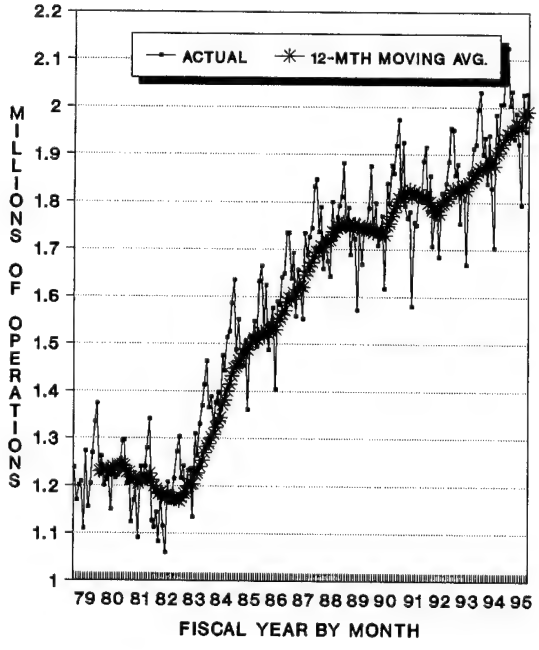
Military operations totaled 2.6 million in 1995. Local and itinerant military operations showed no change in 1995 at 1.3 million.

COMBINED FAA AND CONTRACT TOWERS
TOWERED AIRPORT OPERATIONS

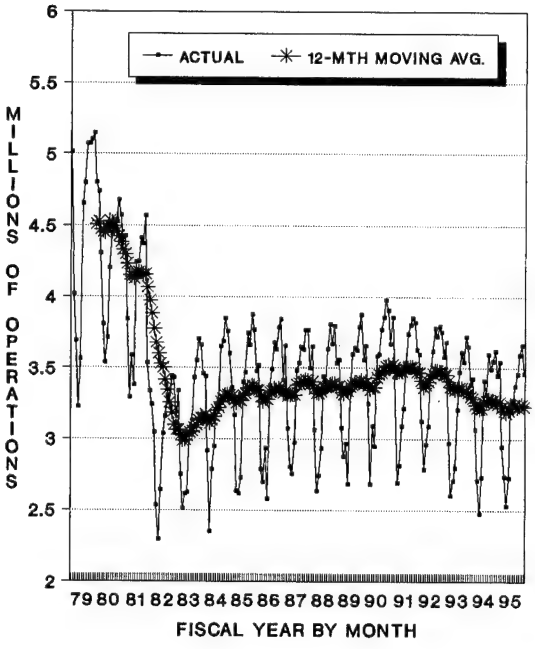
TOTAL OPERATIONS



COMMERCIAL OPERATIONS



NONCOMMERCIAL OPERATIONS



FAA Towers

On September 30, 1995, the number of FAA towers totaled 352, down from 402 in 1994. During 1995, 50 FAA towers were converted to contract towers. It is important to note that the declines in FAA tower activity in 1995 reflect, in part, the reduction in the number of FAA towers. Activity at the 50 towers converted during 1995 totaled 3.5 million in 1994, 5.8 percent of the 60.3 million operations reported at the 402 FAA towered airports in 1994.

Aircraft activity at the 352 FAA tower airports totaled 58.0 million operations in 1995, down 4.0 percent from 1994. Commercial activity increased 0.9 percent, while noncommercial activity dropped 7.0 percent.

In 1995, air carrier activity at FAA towers increased 3.0 percent, while commuter/air taxi, general aviation, and military operations declined 2.0 percent, 6.9 percent, and 8.0 percent, respectively

Contract Towers

On September 30, 1995, the number of contract towers totaled 94, an increase of 62 towers from 1994. During 1995, 50 FAA towers were converted to contract towers. In addition, 12 new or non-Federal towers were placed under FAA contract.

Aircraft activity at the 94 contract tower airports totaled 4.4 million operations in 1995, up 134 percent from 1994. Commercial activity increased 156 percent, while noncommercial activity expanded 132 percent.

In 1995 Air carrier activity at contract towers increased 333 percent, while commuter/air taxi, general aviation, and military operations increased 142 percent, 133 percent, and 121 percent, respectively.

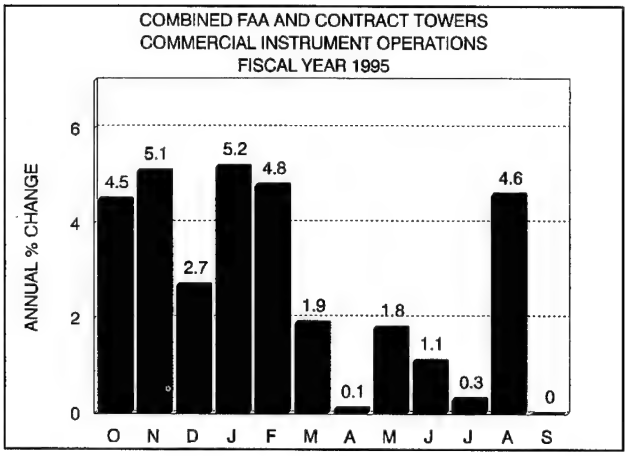
Operation counts for the 352 FAA towered airports and the 94 contract towers, by user group, can be found in the publication FAA Air Traffic Activity FY 1995, compiled by the Statistics and Forecast Branch, Office of Aviation Policy and Plans (APO-110), phone (202) 267-3355.

INSTRUMENT OPERATIONS

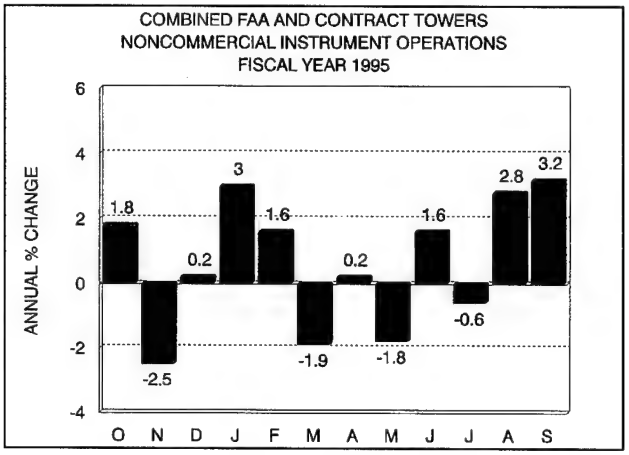
Combined FAA and Contract Towers

Instrument operations handled at combined FAA and contract towers totaled 47.3 million in 1995, 0.6 percent above the 1994 activity level. In 1995, FAA towers accounted for over 99 percent of total instrument operations. Table 36 (Chapter IX) provides a count of instrument operations at the combined FAA and contract towers. Note that the totals of FAA and contract tower instrument operations provided in Tables 37 and 38 are nonadditive due to some double counting at contract towers).

Commercial aircraft activity (25.6 million operations) increased by 1.6 percent in 1995. Air carrier instrument operations totaled 14.7 million, up 2.8 percent. Air carrier instrument operations during the past three years have shown strong growth, up 8.1 percent.



Commuter/air taxi instrument operations totaled 10.9 million in 1995, unchanged from the 1994 activity level. The lack of growth in this series in 1995 was due, in part, to the temporary grounding of ATR aircraft during the winter of 1994-95. Noncommercial instrument operations (21.7 million) decreased 0.5 percent in 1995. General aviation activity totaled 18.1 million, the same activity level achieved in 1994.



Most of the increase in general aviation activity since 1982--over 30 percent--can be attributed to the formation of radar service areas at 178 locations throughout the United States. Currently, there are 29 Class B (Terminal Control Areas), 121 Class C (Airport Radar Service Areas), and 28 TRSAs (Terminal Radar Service Areas).

Military instrument operations totaled 3.6 million in 1995, down 2.7 percent from 1994 operation counts.

FAA Towers

Changes in FAA tower activity in 1995 reflect, in part, the significant reduction in the number of FAA Level I VFR towers in 1995. However, the overall impact on instrument operations is relatively minor. Most of the contracted towers' instrument operations are handled by and included in FAA's radar facilities' operations counts.

Instrument operations at the 352 FAA tower airports totaled 47.0 million in 1995, up 0.4 percent from 1994. Commercial activity increased 1.6 percent, while noncommercial activity dropped 0.9 percent.

In 1995, air carrier instrument operations at FAA towers increased 2.8 percent, while commuter/air taxi and general aviation activity remained unchanged, and military operations declined 5.4 percent.

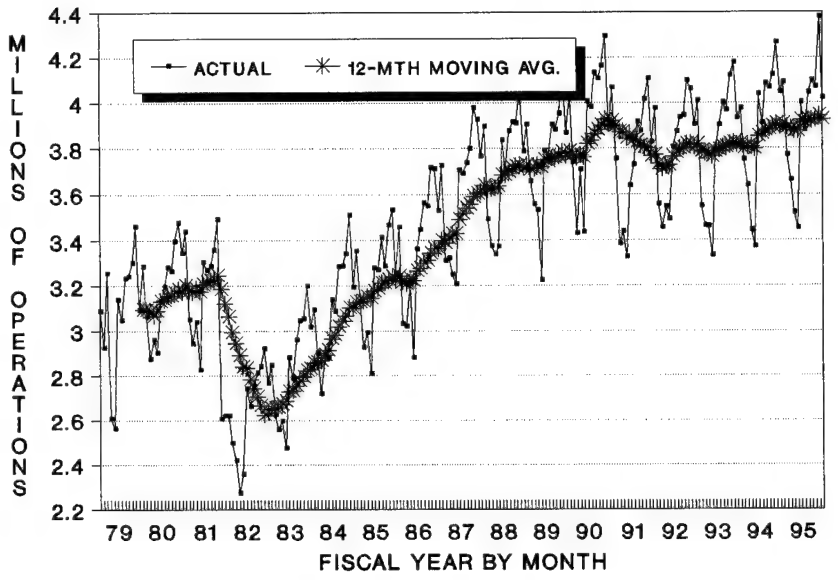
Contract Towers

Instrument operations at the 94 FAA contract tower airports totaled 862,000 in 1995, up 173 percent from 1994. Commercial activity increased 208 percent, while noncommercial activity increased 155 percent.

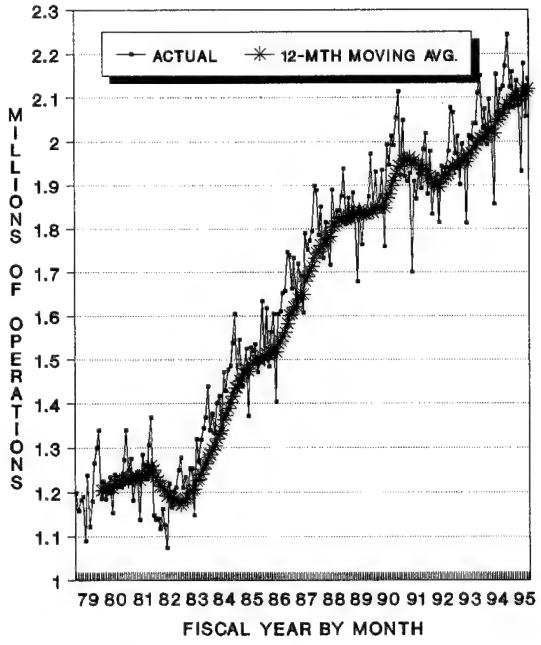
In 1995, air carrier instrument operations at FAA contract towers increased 357 percent, while commuter/air taxi, general aviation, and military operations increased 189 percent, 151 percent, and 186 percent, respectively.

COMBINED FAA AND CONTRACT TOWERS
INSTRUMENT OPERATIONS

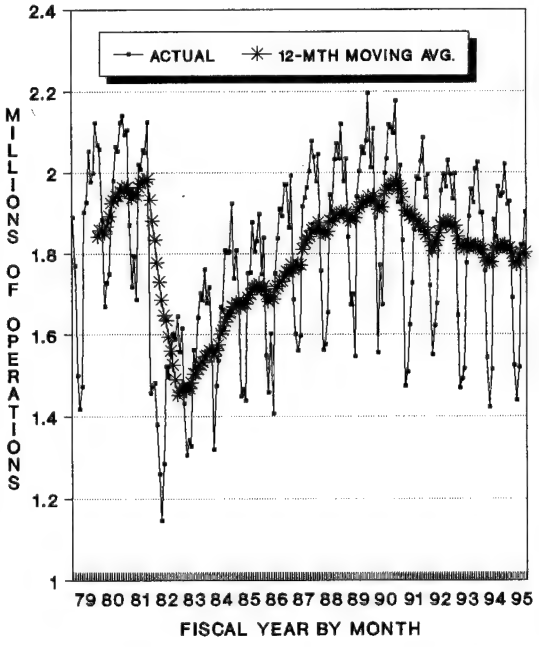
TOTAL OPERATIONS



COMMERCIAL OPERATIONS



NONCOMMERCIAL OPERATIONS

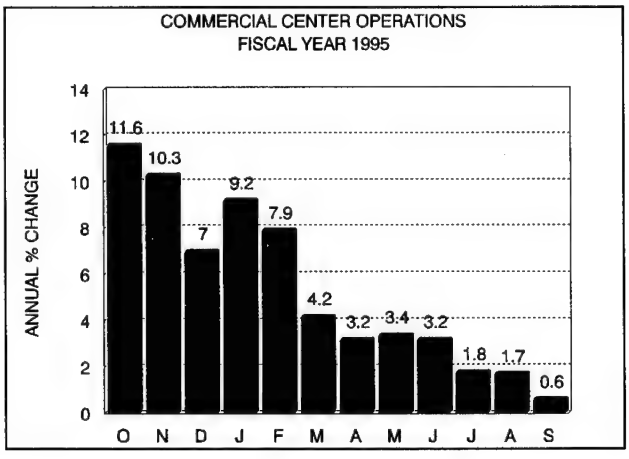


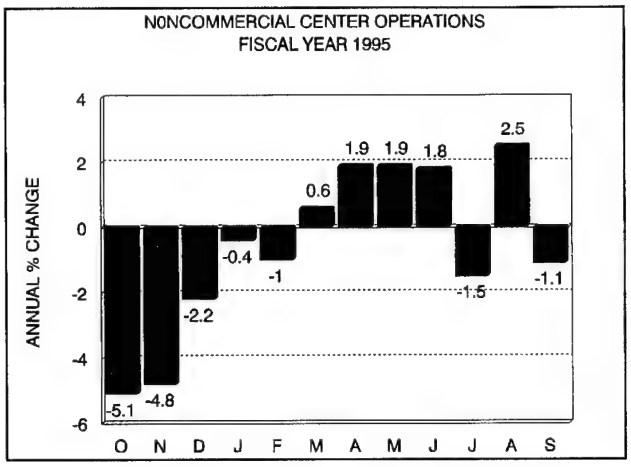
CENTER ACTIVITY

In 1995, the number of aircraft flying under instrument rules handled by FAA air route traffic control centers totaled 40.2 million, an increase of 3.3 percent over 1994 activity counts. The increase at en route centers in the last 5 years (up 11.0 percent) can be attributed to the growth in commercial aviation activity (up 18.1 percent). The number of commercial aircraft handled at the centers (28.0 million) increased 5.3 percent in 1995.

The number of air carrier aircraft handled totaled 21.0 million, while the number of commuter/-air taxi aircraft handled totaled 7.0 million (up 6.1 percent).

The number of noncommercial aircraft handled (12.2 million) was down 0.8 percent in 1995. The number of general aviation aircraft handled totaled 7.8 million, while military activity totaled 4.4 million. The military declines experienced in 1993, 1994, and 1995 appear to be the result of a general cutback in overall military activity levels.





FLIGHT SERVICE STATION ACTIVITY

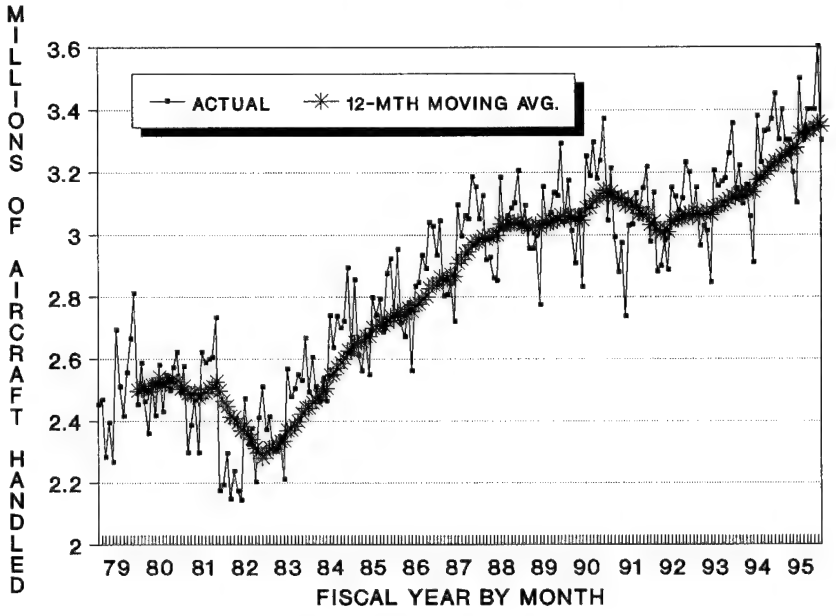
Pilot briefings, flight plans filed, and aircraft contacts recorded by flight service stations (FSSs) totaled 34.6 million in 1995, a decline of 5.2 percent from 1994 activity levels. Activity declined in two of the three flight service categories. The number of aircraft contacted dropped 10.6 percent to 4.2 million, the number of pilot briefings declined 7.3 percent to 8.9 million, and the number of flight plans originated remained unchanged at 6.3 million.

However, the FAA also provides automated flight services, which supplement FSS activity. The Direct User Access Terminal System (DUATS) provides an alternative to the FSS for obtaining pilot briefing information and filing flight plans. Use of this service was introduced in February 1990. In 1995, the number of flight plans filed through DUATS increased 14.3 percent When the services provided through DUATS are included with traditional FSS services, total flight plans filed increased from 7.0 million in 1994 to 7.1 million in 1995.

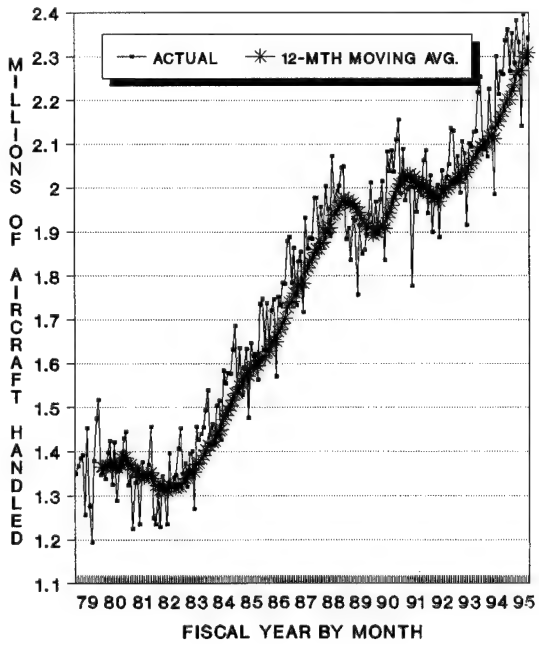
The number of DUATS transactions/weather briefings dropped off sharply in 1995 because of the restricted access effective in October 1994. The number of DUAT transactions declined

IFR AIRCRAFT HANDLED

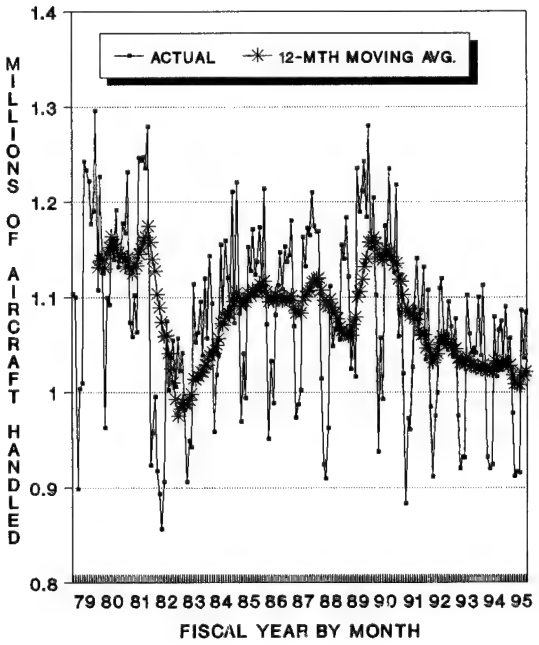
TOTAL AIRCRAFT HANDLED



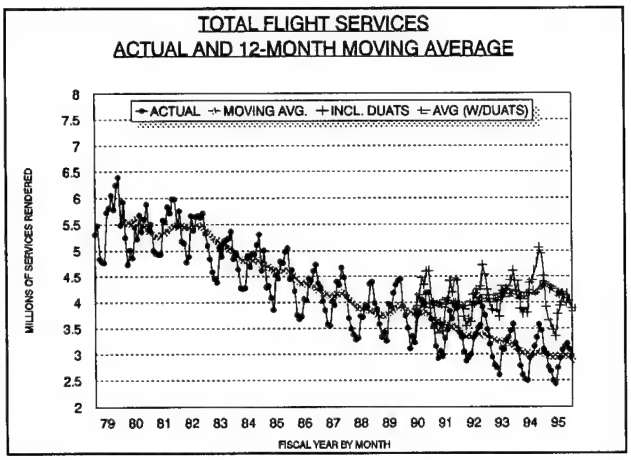
COMMERCIAL AIRCRAFT HANDLED



NONCOMMERCIAL AIRCRAFT HANDLED



32.9 percent in 1995, from 7.3 million in 1994 to 4.9 million.



Thus, the total flight services provided by the FAA in 1995 decreased 12.4 percent compared to 1994 (see graph).

On September 30, 1995, there were a total of 61 automated flight service stations (AFSSs) and 31 flight service stations. During 1995, a total of 31 FSSs were consolidated with their respective AFSSs.

FORECAST ASSUMPTIONS

Forecast growth in FAA workload measures includes not only the demand imposed on the existing National Airspace System, but also aviation activity at new locations not previously provided with FAA services. Workload forecasts are presented for combined FAA and contract towers, and separately for FAA facilities and contract towers.

NUMBER OF FAA FACILITIES

In 1995 there were 352 FAA towered airports. Under the agency's tower conversion plan, 25 of FAA Level 1 VFR towered airports are scheduled to become FAA contracted towers in 1996 and another two are scheduled to be decommissioned. In addition, one contract towers is scheduled to be decommissioned.

There are 178 radar service areas--29 Class B and 121 Class C, and 28 TRSAs (Terminal Radar Service Areas).

The number of flight service stations and automated flight service stations totaled 92 on September 30, 1995: 61 AFSSs and 31 FSSs. Of the remaining FSSs, 14 are Alaskan rotational FSSs and 17 are auxiliary FSSs. However, the 17 auxiliary FSSs are scheduled to be closed in 1997 if Congress permits. Thus at the end of 1995, all AFSSs were commissioned, and the consolidation of other FSSs completed.

EXTERNAL FACTORS

Despite projections of moderate to strong growth in the U. S. economy and in activity levels at FAA facilities, there is uncertainty associated with these forecasts. A number of external events could significantly alter the short-term environment and cause the activity levels to be significantly different than those forecasted.

In 1995, lower real air fares, consumer confidence, and overall economic growth both in the United States and abroad has stimulated air travel. Although we expect these factors to have a continuing positive effect on aviation over the next several years, relatively large deviations from these trends could alter the forecasts presented in this document.

The significant growth in low-cost airlines is forcing the major carriers to restructure in order to reduce unit costs. If the airlines can achieve their goals, all other things being equal, fares should continue to fall. In effect, competition should push all fares to the marginal costs of the most efficient firms in the industry. In addition, new-entrant low-cost carriers are expected to expand their share of the market and intensify competition.

All of the assumptions cited above should expand air carrier activity at FAA facilities during the next several years. Clearly, changes in these assumptions concerning the industry will cause deviations from the expected outcomes. For example, if relatively high-cost airlines cannot achieve their cost and productivity goals, they may be forced to reduce operations or leave the industry. Under this scenario, growth in activity at FAA facilities could be slowed.

One additional factor to be considered is the impact of the phase-out of air carrier stage-2 aircraft on regional/commuter carriers' activity levels. As stage-2 aircraft are phased out of the air carrier fleet, it is expected that some of the larger carriers may elect to transfer the routes formerly served by these aircraft to their code-sharing partners who generally provide service with smaller capacity turboprop aircraft. Should the number of route transfers greatly exceed current expectations, regional/commuter operations at FAA air traffic facilities could be higher than currently forecast. Conversely, air carrier operations would be lower.

WORKLOAD FORECASTS

During 1996, 25 FAA towers are scheduled for conversion to contract tower status, and another two are scheduled to be decommissioned. In addition, one contract tower is scheduled to be decommissioned. For developing the forecasts, the following assumptions are made: 1) the distribution of the conversions and decommissionings throughout the year are uniform; 2) all 27 FAA towers are removed from the system by the end of the fiscal year; and 3) all 25 contract tower conversions are completed by the end of the fiscal year. The first assumption implies that only half the number of decommissioned and converted tower activity should be counted for 1996. Attempts will be made to close auxiliary FSSs in 1997, if Congress permits. The tower conversions and deommissionings cited above will not impact Air Route Traffic Control Centers.

METHODOLOGY

To forecast the level of FAA tower activity over the 12-year planning period, the following methodology is used: First, expected annual growth rates are estimated for operations at the 325 towered airports (the number of towered airports at the end of 1996) for the period 1996 through 2007. Second, for 1996, half the number of operations for the 27 airports that are expected to be removed from the system by the end of 1996 are added to the operations of the 325 towered airports. Only half the number of operations are added, since it is assumed that the conversions and decommissionings are uniformly distributed throughout the year. For 1997, all of the 27 airports are removed from the system. Forecasts for 1996, 1997, and for the remaining forecast years reflect, in part, the reduction in the number of FAA towers from 352 in 1995 to 325 in 1997.

A similar approach is used to estimate operations for contract towers. Half the number of operations of the converted towers are counted in 1996, and by the end of the year all expected conversions are completed. Forecasts of operations at contract towers for 1996, 1997, and for the remainder of the forecast planning

horizon reflect, in part, an increase in the number of contract towers from 94 in 1995 to 118 in 1997 (the increase is 24 rather than 25 due to the expected decommissioning of one contract tower in 1996).

TOWER ACTIVITY

Combined FAA and Contract Towers

Operations at combined FAA and contract towered airports are forecast to increase by 1.1 percent (to 63.2 million) in 1996. The growth in 1996 is due to the continued expansion in the U.S. economy (GDP up 2.7 percent), and the expansion of commercial activity in short-haul markets. In addition, economic expansion and the recently enacted General Aviation Revitalization Act is expected to spur a recovery in student/pilot training. During the 12-year forecast period, operations at FAA and contract towered airports are projected to increase by 1.5 percent annually. In absolute numbers, these combined towered operations are projected to total 74.5 million in 2007.

The mix of aircraft using combined FAA and contract towered airports is expected to change, as the total of general aviation and commuter/air taxi operations (i.e., operations performed by smaller aircraft) is expected to grow by about 15.4 percent while the number of air carrier operations is expected to increase 37.2 percent.

The combined activities of general aviation and commuter/air taxi are expected to account for 71.5 percent of total tower operations in 2007, down only slightly from a 73.9 percent share in 1995. Air carrier operations share of the combined towered airport activity is expected to increase during the forecast period, from 21.9 percent in 1995 to 25.0 percent in 2007.

The forecasted activity levels and average annual growth rates for each aviation user group from 1995 to 2007 are: commuter/air taxi, from 10.2 to 13.5 million operations (2.4 percent annual growth); air carrier, from 13.7 to 18.6 million operations (2.6 percent); and general aviation, from 36.0 to 39.8 million operations (0.8 percent).

Itinerant general aviation operations are forecast to increase from 20.9 to 23.2 million operations (0.9 percent annually) and local general aviation operations from 15.1 to 16.6 million operations (0.8 percent annually). Military operations are expected to level off at 2.6 million operations yearly through 2007.

Commercial aircraft activity at these combined towered airports is expected to grow at an average annual rate of 2.5 percent during the 12-year forecast period, from 23.9 to 32.1 million. Noncommercial activity is forecast to increase from 38.6 million in 1995 to 42.4 million in 2007, an average annual increase of 0.8 percent.

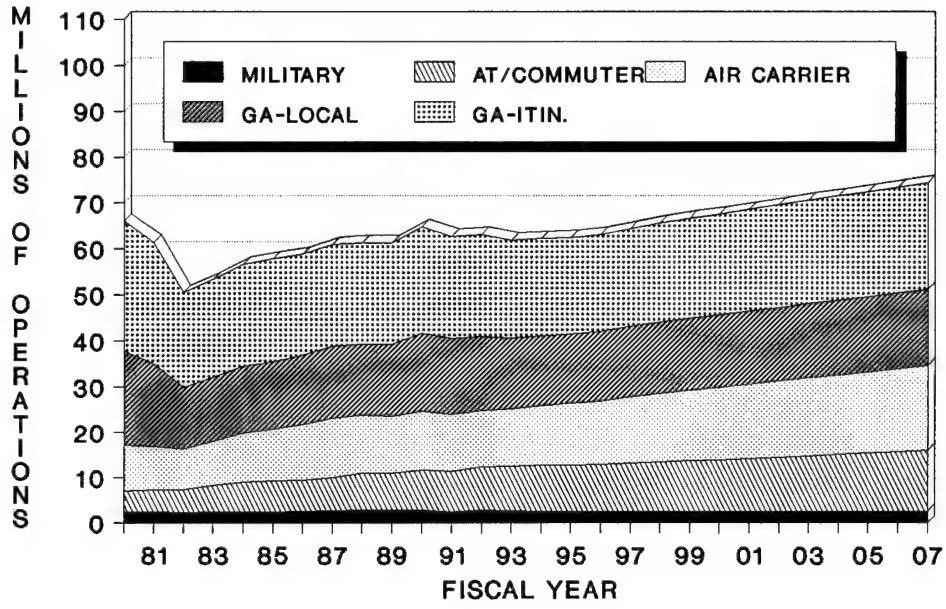
FAA Towers

In 1995, operations at the 352 FAA towered airports totaled 58.0 million. However, during 1996, 25 FAA towers are scheduled for conversion to contract towers and two are scheduled for decommissioning, reducing the total number of FAA towered airports for the forecast period to 325.

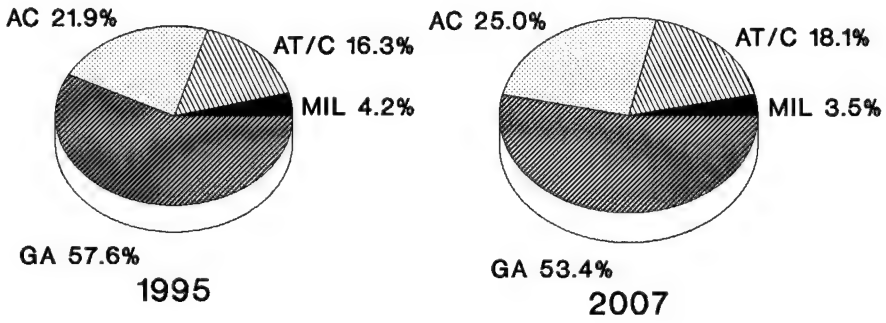
For the 12-year forecast period, operations at FAA towered airports are forecast to increase 1.0 percent a year. In absolute numbers, towered operations are projected to total 65.5 million in 2007.

Commercial aircraft activity at FAA towered airports is expected to grow at an average annual rate of 2.3 percent during the 12-year forecast period, from 23.4 to 30.9 million

AIRCRAFT OPERATIONS AT AIRPORTS WITH FAA AND CONTRACT TRAFFIC CONTROL SERVICE



DISTRIBUTION OF WORKLOAD BY USER GROUP



Noncommercial activity is expected to remain at its current level of 34.6 million through 2007.

Contract Towers

In 1995, operations at the 94 contract towered airports totaled 4.4 million. During 1996, the total number of contract airports will increase by 24 (25 FAA towers converted to contract towers and one FAA contract tower decommissioned) to 118. The number of FAA contract towers will remain at this level through the forecast period.

For the 12-year forecast period, operations at contract towered airports are forecast to increase 6.2 percent a year. In absolute numbers, towered operations are projected to total 9.1 million in 2007.

Commercial aircraft activity at contract towered airports is expected to grow at an average annual rate of 9.0 percent during the 12-year forecast period, from 462,900 to 1.3 million. Noncommercial activity is forecast to increase from 3.9 million in 1995 to 7.8 million in 2007, an average annual increase of 5.8 percent.

INSTRUMENT OPERATIONS

Combined FAA and Contract Towers

Combined FAA and contract tower instrument operations are forecast to grow by 1.7 percent in 1996 and 2.1 percent in 1997. During the forecast period, combined instrument operations are expected to increase at an average annual rate of 1.7 percent, growing from a total of 47.3 million operations in 1995 to 58.2 million operations in 2007. In 2007, FAA towers will account for about 98 percent of instrument operations, down about 1.0 percent from 1995.

The mix of instrument operations is expected to change during the forecast period. The number of commuter/air taxi and general aviation operations performed by smaller aircraft will increase at a much slower rate than the number of operations performed by the larger, more sophisticated air carrier aircraft (19.3 versus 36.1 percent). By 2007, 34.4 percent of all instrument operations are expected to be performed by air carrier aircraft, up from 31.0 percent in 1995. Commuter/air taxi and general aviation operations share of the total will drop from 61.3 percent in 1995, to 59.5 percent in 2007.

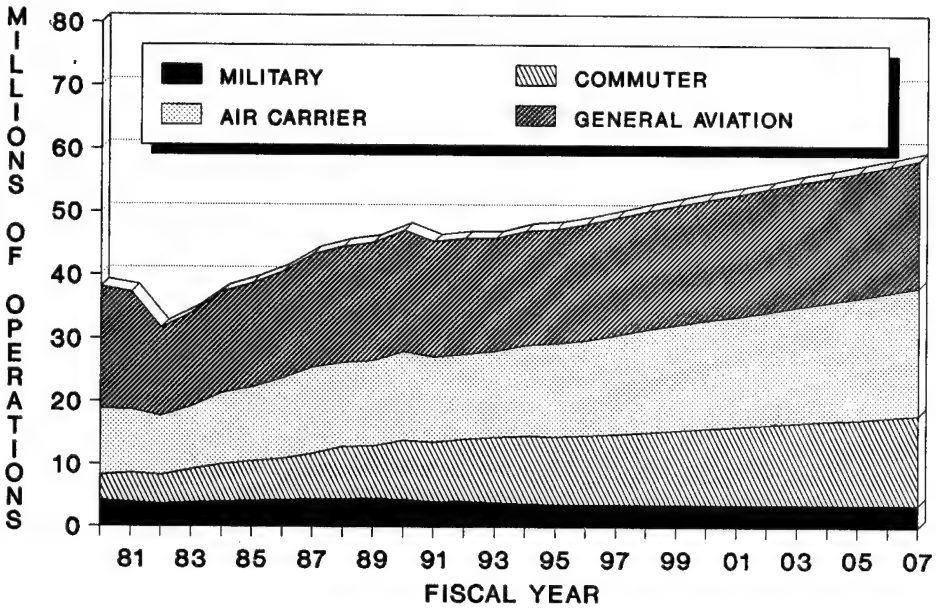
The projected activity levels and average annual growth rates for each user group from the year 1995 to 2007 are: commuter/air taxi, from 10.9 to 14.4 million operations (2.3 percent annually); air carrier, from 14.7 to 20.0 million operations (2.6 percent annually); and general aviation, from 18.1 to 20.2 million operations (0.9 percent annually). Military activity is expected to remain at the 1995 level of 3.6 million through 2007.

During the 12-year forecast period, commercial activity is expected to increase at an average rate of 2.5 percent annually, from 25.6 to 34.4 million. Noncommercial activity is forecast to increase from 21.7 million in 1995 to 23.8 million in 2007, an average annual growth rate of 0.8 percent.

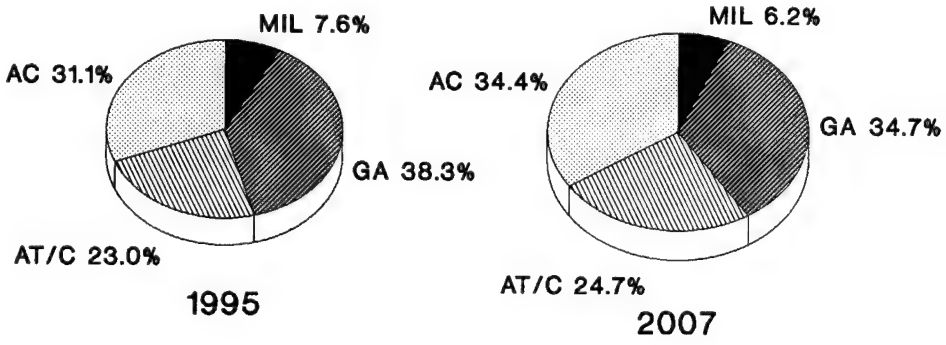
FAA Towers

For the 12-year forecast period, instrument operations at FAA towered airports are forecast to increase 1.7 percent a year. In absolute numbers, FAA towered instrument operations are projected to total 57.3 million in 2007.

INSTRUMENT OPERATIONS AT AIRPORTS WITH FAA AND CONTRACT TRAFFIC CONTROL SERVICE



DISTRIBUTION OF WORKLOAD BY USER GROUP



Commercial instrument operations at FAA towered airports are expected to grow at an average annual rate of 2.4 percent during the 12-year forecast period, from 25.5 to 33.9 million. Noncommercial activity is expected to increase from 21.5 million in 1995 to 23.4 million in 2007, up only 0.7 percent a year.

Contract Towers

For the 12-year forecast period, instrument operations at contract towered airports are forecast to increase 6.7 percent a year. In absolute numbers, contract towered operations are projected to total 1.9 million in 2007.

Commercial instrument operations at contract towered airports are expected to grow at an average annual rate of 8.5 percent during the 12-year forecast period, from 329,000 to 835,000. Noncommercial activity is forecast to increase from 533,000 in 1995 to 1.0 million in 2007, an average annual increase of 5.4 percent

CENTER ACTIVITY

The workload at FAA air route traffic control centers is expected to exhibit relatively strong growth during the early years of the forecast period, increasing by 2.2 percent in 1996, 2.7 percent in 1997, and 2.8 percent in 1998. During the 12-year forecast period, the number of aircraft handled at en route centers is forecast to increase at a more moderate pace, averaging 2.0 percent annually. The center workload is forecast to increase from 40.2 million aircraft handled in 1995 to 50.9 million in 2007.

The commercial aircraft activities' share of center workload is forecast to increase from 69.7 percent in 1995 to 72.9 percent in 2007. Between 1995 and the year 2007, the air carrier share is forecast to increase from 52.2 percent to 54.8 percent. The commuter/air taxi share is expected to increase from 17.4 percent to 18.5 percent during the same time period.

The projected activity levels and average annual growth rates for each user group from 1995 to 2007 are: commuter/air taxi, from 7.0 to 9.2 million aircraft handled (2.3 percent annual growth); air carrier, from 21.0 to 27.9 million aircraft handled (2.4 percent annually); and general aviation, from 7.8 to 9.4 million aircraft handled (1.6 percent annually). The number of military operations is expected remain level at 4.4 million for the balance of the forecast period.

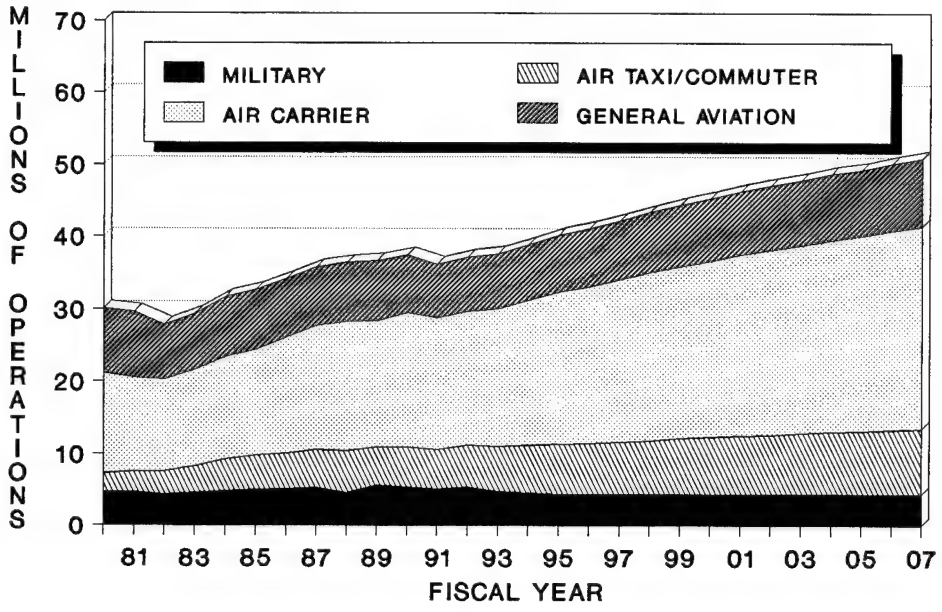
Commercial activity is expected to grow at an average annual rate of 2.4 percent during the forecast period, from 28.0 to 37.1 million. Noncommercial activity is forecast to increase by 1.0 percent annually, from 12.2 million in 1995 to 13.8 million in 2007.

Forecasts for individual centers are available upon request from the Statistics and Forecast Branch, Office of Aviation Policy and Plans, (APO-110), phone (202) 267-3355.

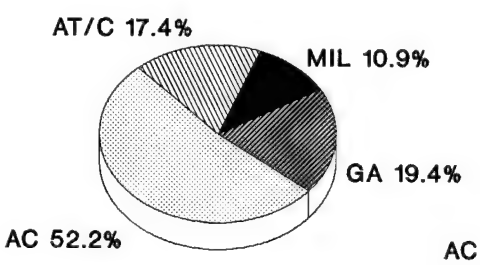
FLIGHT SERVICE STATION ACTIVITY

Total traditional (non-automated) flight services originating at FAA flight service stations are projected to decline throughout the forecast period. In absolute numbers, the number of total flight services is expected to decline to 33.8 million (down 2.3 percent) in 1996, and to 31.1 million (down 2.1 percent) in 1997. By the end of the forecast period, 2007, total flight services provided by the FAA flight service stations are projected to total 31.1 million (an average annual decline of 0.9 percent).

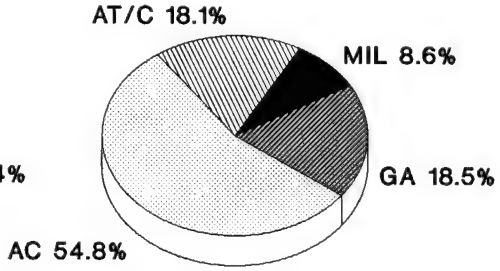
IFR AIRCRAFT HANDLED AT FAA AIR ROUTE TRAFFIC CONTROL CENTERS



DISTRIBUTION OF WORKLOAD BY USER GROUP



1995



2007

Non-automated Service

The number of pilot briefings is forecast to decline to 8.7 million (down 2.2 percent) in 1996, and 8.5 million (down 2.2 percent) in 1997. Again, pilot briefings are projected to continue to decline throughout the forecast period, declining to 8.0 million in 2007 (an average annual rate of decline of 0.9 percent).

The number of flight plans originated is projected to decline to 6.2 million (down 1.6 percent) in 1996, and then to 6.1 million (down 1.6 percent) in 1997. During the balance of the forecast period, flight plans originated through FAA flight service stations are also expected to continue to decline. By the year 2007, total flight plans originated are projected to be 5.7 million (a 0.8 percent average annual decline).

The number of aircraft contacted is forecast to decline to 4.0 million (down 4.8 percent) in 1996, and 3.9 million (down 2.5 percent) in 1997. Thereafter, the number of aircraft contacted is expected to decline marginally to 3.7 million in 2007 (a 1.1 percent average annual decline).

Automated Flight Service Activity Data

The introduction of new technology for flight service applications has significantly changed the operating environment of the flight service system. Viewed in the larger context of the total National Airspace System, the recent workload trends do not necessarily indicate declining demand for flight planning services. Rather, they may indicate that demand is being met through increased use of automation and new system capabilities resulting in increased system efficiencies and productivity.

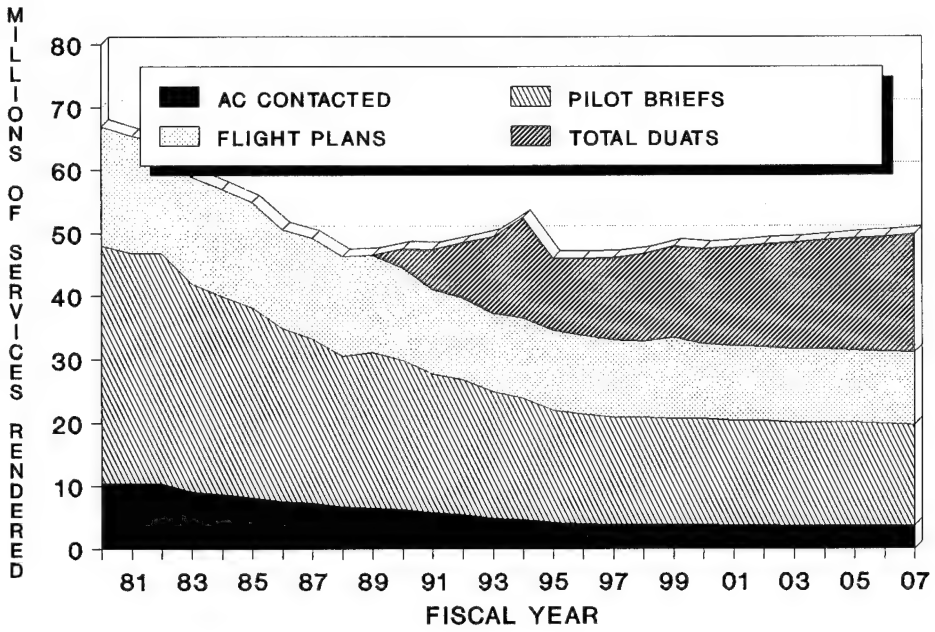
Specifically, several factors resulting from automation will tend to dampen the growth in FSS workload measures, as currently defined. First, pilots can now obtain weather briefings through the Telephone Information Briefing System (TIBS), which does not require contact with a flight service specialist, and is not, therefore, included in the FSS pilot briefings count. Second, private weather briefing vendors, participating in memorandums of agreement with the FAA, can also provide weather briefings and file flight plans for their customers without going through an FSS. Third, starting February 1990, DUATS became operational. Using DUATS, pilots with access to a computer, modem, and telephone can directly access a national weather data base for weather briefings and flight plan filing without ever going through an FSS.

This automated access may be through the pilot's own computer or through those of fixed-based operators offering the service to their customers. None of the flight planning services provided through the above sources are included in the FSS workload measures.

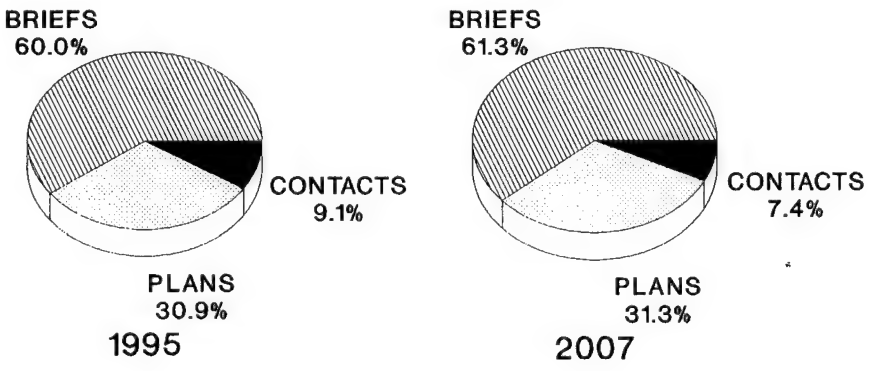
During 1995, there was a total of 4.9 million DUATS transactions, 32.9 less than 1994. The large drop is the result of the termination of access to the DUATS system by non-pilot users at the beginning of October 1994. If each transaction involves a weather briefing, this represents 4.9 million pilot briefs. In addition, about 840,400 flight plans were filed through the DUATS system (up 4.8 percent). Using the weighted total flight services formula (two times the sum of pilot briefs and flight plans filed), this translates into approximately 11.4 million total flight services that are not included in the FAA flight service station workload measure.

DUATS transactions are projected to increase from 4.9 million in 1995 to 5.2 million in 1996. In 1997, DUATS transactions are projected to total 5.5 million, a 5.8 percent increase over the 1996 level. During the period 1996 through 2007, DUAT transactions are forecast to

FLIGHT SERVICES ORIGINATED AT FAA FLIGHT SERVICE STATIONS



DISTRIBUTION OF WORKLOAD BY USER GROUP



increase at an average annual rate of 3.3 percent, reaching 7.3 million in 2007. For the entire forecast period, flight plans filed through DUATS are expected to increase from approximately 840,400 to 2.1 million in 2007, a 7.9 percent average annual increase. By the year 2007, total services provided through DUATS are projected to account for 18.8 million flight services, or 38 percent of total system services.

Total Flight Services

The continued decline in activity at FAA flight service stations is the result of the process of FSS consolidation, and the growing acceptance and utilization of DUATS services.

Total flight services, including non-automated and automated services, are expected to total 46.0 million in 1996, unchanged from 1995. This is due to the continued impact of restricted access to DUATS to only licensed airmen, as noted above. However, by 2007, total flight services are forecast to reach 49.9 million, an average annual increase of 0.7 percent over the 1995 level.

Forecasts for individual flight service stations are available upon request from the Statistics and Forecast Branch, Office of Aviation Policy, and Plans, (APO-110), phone (202) 267-3355.

CHAPTER VIII

FORECAST ACCURACY

The Federal Aviation Administration (FAA) has developed forecast models and established a forecast process that attempts to anticipate changes that may affect the future direction of the industry. Using this forecast process, the FAA provides 12-year forecasts of workload measures annually for aviation-related personnel and facility planning. The FAA frequently sponsors workshops to critique techniques and practices currently used by the FAA and other aviation forecasters and to examine the outlook for the aviation industry and its prospects for future growth. The workshops focus on the forecasting process and ways to improve the reliability and utility of forecasting results.

The tables on pages VIII-3 and VIII-4, provide some measure of the accuracy of FAA projections of aviation activity and workload at FAA facilities. The tables compare forecasts for both the short-term and the long-term periods. The short-term period, 1 to 5 years, is the critical period for personnel planning; the long-term period, for 10 years out, is important for facility planning. The two key FAA forecasts are domestic revenue passenger miles (RPMs) and aircraft handled at FAA en route centers, the former used to predict the latter.

In prior years, accuracy tables were provided on instrument operations. This year, the instrument operations table was replaced by one for domestic passenger miles. In 1995, 50 FAA air traffic control towers were converted to contract towers. The removal of these towers from the instrument operations counts makes comparisons to previous year's activity levels difficult, if not impossible. The change in the number of FAA towers also distorts comparisons of the actual counts to forecast activity levels. Therefore, the instrument operations table was replaced with one for domestic revenue passenger miles. The commercial sector is the major driver of activity at the Air Route Traffic Control Centers (ARTCCs) and thus domestic RPMs are a reliable measure of forecast accuracy.

For short-term trends, the forecast errors normally tend to be small: the 1995 forecast for domestic RPMs was 0.2 percent higher than final fiscal year traffic--off by less than one billion RPMS. The forecast for aircraft handled was 1.0 percent lower--39.8 million forecast versus. 40.2 million actual.

The 10-year out forecast errors are higher because of unanticipated external events that have long-term impacts on the aviation system. Contributing external factors to RPMs include the Gulf War and the concomitant rise in fuel prices, and the outbreaks of terrorism in 1986 and 1991. These events, plus the failure of general aviation to respond to the economic

recovery of the 1980s and 1990s, affect the number of aircraft handled. Further, the FAA does not use cyclical economic projections in preparing its long-term forecasts. As a result, the 1990/1991 recession was not considered in any of the forecasts prepared prior to 1990.

THE FAA AVIATION FORECASTING PROCESS

INTRODUCTION

The FAA's forecasting process is a continuous and interactive one that involves the FAA Statistics and Forecast Branch, other FAA Offices and Services, other Government agencies, and aviation industry groups. In addition, the process uses various economic and aviation data bases, econometric models and equations, and other analytical techniques.

Forecasting aviation activity is an essential component of the FAA's planning process. The forecasts are used to determine staffing levels and capital expenditures that will be needed to accommodate growth of aviation activity while maintaining a safe and efficient environment. The forecasts are also used for short-term budget preparation, cost-benefit analyses, and safety analyses. The relative importance of the forecasting function in the planning process can be gauged by examining the major changes being made to the airspace infrastructure through the Capital Investment Plan out to the year 2007. These changes are being made, in large part, to accommodate the projected growth in air traffic.

To improve the air traffic control and air navigation systems, the FAA is installing new aircraft landing systems, developing new radar and communication systems, and upgrading the weather services it provides to aircraft operators. Because of the sizable investments being made in the National Airspace System, it is essential that the FAA develop and use the most accurate and reliable forecasts possible. Thus, the periodic review and evaluation of the forecasting procedures, models, forecast assumptions, and forecast results constitute an essential part of the process.

SYSTEM BACKGROUND

As part of the need to ensure safe and efficient operation of the National Airspace System, FAA operates 455 air traffic control towers (352 FAA and 93 contract--as of September 30, 1995), 22 air route traffic control centers, and 93 flight service stations (FSS). Many of the nonautomated flight service stations will be absorbed into 59 new automated facilities (AFSS). However, given the Congressional mandate to implement a system of auxiliary flight service stations in addition to the 59 AFSSs, 31 of the flight service stations that were scheduled to be closed will remain open. Also in 1996, an additional 25 towers are scheduled to be converted to contract tower status.

FAA facilities perform a large and diverse number of services for the aviation community. The FAA towers provide sequencing and separation services to pilots and aircraft arriving at or departing from individual airport facilities. These services are provided to the various categories of aircraft: air carriers, commuters/air taxis, general aviation, and military. The sum of arrivals and departures (landings and takeoffs) is generally referred to as aircraft operations. Arrivals and departures are further classified as itinerant or local operations depending on the purpose of the flight or the distance between the airports from which the landings and takeoffs were made. These operations are measures of workload or activity at individual airports. The sum of these operations at the 455 FAA and

DOMESTIC REVENUE PASSENGER MILES (RPM)
FORECAST EVALUATION

Year Being Forecast	Actual RPMs (Billions)	Forecast RPMs (Billions) Published -- Years Earlier					
		1 Year	2 Years	3 Years	4 Years	5 Years	10 Years
1989	328.4	339.5	348.0	340.9	330.4	316.2	337.3
1990	339.2	341.0	352.9	364.7	361.2	340.6	330.0
1991	333.6	335.4	358.1	373.7	389.5	380.8	332.7
1992	346.7	342.7	348.8	374.9	394.3	412.9	344.1
1993	348.6	355.5	358.8	366.3	389.9	413.6	368.5
1994	371.3	358.6	375.1	375.3	383.1	407.1	397.5
1995	392.4	391.5	374.0	393.9	391.1	404.6	438.7
1996		***405.3***	412.2	389.0	411.6	409.1	472.0
1997			***426.4***	432.8	405.7	428.1	514.9
1998				***448.6***	451.4	422.0	517.9
1999					***465.2***	469.5	507.3
2000						***482.4***	506.0
2001							500.6
2005							***574.6***

Year Being Forecast	Forecast RPMs Percent Error Published--Years Earlier					
	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years
1989	3.4	6.0	3.8	0.6	(3.7)	2.7
1990	0.5	4.0	7.5	6.5	0.4	(2.7)
1991	0.5	7.3	12.0	16.8	14.1	(0.3)
1992	(1.2)	0.6	8.1	13.7	19.1	(0.7)
1993	2.0	2.9	5.1	11.8	18.6	5.7
1994	(3.4)	1.0	1.1	3.2	9.6	7.1
1995	(0.2)	(4.7)	0.4	(0.3)	3.1	11.8

Note on how to read this table: In 1994 we forecast 391.5 billion RPMs would occur in 1995. In fact 392.4 billion RPMs were recorded, meaning the forecast was 0.2 percent lowerr than actual. In 1988 we forecast 352.9 billion RPMs would occur in 1990. This forecast was 4.0 percent higher than actual.

The 1996 forecast is shown in bold italics.

FAA ARTCC AIRCRAFT HANDLED FORECAST EVALUATION

Year Being Forecast	Actual Activity (Millions)	Forecast Activity Level (Millions) Published -- Years Earlier					
		1 Year	2 Years	3 Years	4 Years	5 Years	10 Years
1989	36.6	37.2	38.0	37.6	37.2	37.4	42.0
1990	37.4	37.8	38.2	39.2	38.7	38.4	42.2
1991	36.2	38.5	39.1	39.7	40.3	39.6	40.3
1992	37.2	37.3	39.6	40.1	40.8	41.4	39.3
1993	37.6	37.5	38.3	40.6	41.0	41.6	40.7
1994	38.9	37.9	38.4	39.4	41.5	41.9	43.6
1995	40.2	39.8	38.6	39.3	40.3	42.7	43.6
1996		***41.1***	40.7	39.4	40.0	41.1	44.0
1997			***42.2***	41.5	40.3	40.7	46.0
1998				***43.4***	42.4	41.1	46.1
1999					***44.4***	43.4	46.0
2000						***45.3***	47.1
2001							46.6
2005							***49.3***

Year Being Forecast	Forecast Activity Percent Error Published--Years Earlier					
	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years
1989	1.6	3.8	2.7	1.6	2.2	14.8
1990	1.1	2.1	4.8	3.5	2.7	12.8
1991	6.4	8.0	9.7	11.3	9.4	11.3
1992	0.3	6.5	7.8	9.7	11.3	5.6
1993	(0.3)	1.9	8.0	9.0	10.6	8.2
1994	(2.6)	(1.3)	1.3	6.7	7.7	12.1
1995	(1.0)	(4.0)	(2.2)	0.2	6.2	8.5

Note on how to read this table: In 1994 we forecast 39.8 million aircraft would be handled in 1995. In fact 40.2 million aircraft were recorded, meaning the forecast was 1.0 percent lower than actual. In 1988 we forecast 38.2 million aircraft would be handled in 1990. This forecast was 2.1 percent higher than actual.

The 1996 forecast is shown in bold italics.

contract towered airports make up the national count of aircraft operations.

Another activity measure at FAA towered airports is the number of instrument operations; i.e., aircraft operations performed in accordance with an instrument flight rule (IFR) flight plan, or an aircraft flight where IFR separation between aircraft is provided by the facility. Instrument operations are further subdivided into: (1) primary instrument operations--separations and sequencing services provided to aircraft landing at the airport providing the service; (2) secondary instrument operations--services provided to aircraft landing at a nearby airport; and (3) overs--services provided to aircraft that originate outside the ARTCC area and pass through the area without landing. Another contributor to work load is advisory services being offered to aircraft flying under visual flight rules (VFR) in certain positively controlled airspace.

Each ARTCC controls aircraft that are flying under instrument flight rules in the center's designated geographic control area. The workload measure for the centers is the number of IFR aircraft handled, which is two times departures, plus overs. The IFR counts are categorized by user groups.

Flight service stations provide a variety of services to the aviation community. They collect and disseminate meteorological and other flight information, provide briefings to pilots, and provide assistance in emergencies to lost, disoriented, or downed airmen. The workload measure at flight service stations, total flight services, is equal to the sum of flight plans filed and pilot briefs, multiplied by two, plus the number of aircraft contacted.

The introduction of new technology to flight service stations has changed operating environments. It appears that an apparent decline in demand for flight planning services may actually signify that demand is being met through increased use of automation and new system capabilities. This results in increased system efficiency and productivity.

The FAA must consider at least 133 variables when producing a set of national forecasts. (The number does not include derived subtotals and totals.) Of these, four economic independent variables are obtained from sources external to the FAA and the FAA has no control over these truly exogenous variables. There are 12 quantifiable air carrier forecast assumptions and 4 quantifiable regional/commuter carrier forecast assumptions. Within justifiable limits, these forecast assumptions are under the control of the analysts who develop the forecast. There are 83 aviation variables that are not FAA workload measures but that influence the workload measures in one way or another. Finally, there are 30 aviation variables that are the workload measures used by the FAA for policy and planning considerations and for personnel and investment planning.

The table at the end of this chapter contains a list of the variables and the sources of the historical data and their relationship to the forecast process. Forecasts of the economic variables and the military fleet and its hours flown are developed outside the FAA. All other forecasts are developed by the FAA.

Research undertaken in the early- and mid-1970s indicated that some measures of economic activity (such as gross domestic product or total employment) and some measures of prices (for example, aircraft prices and aviation fuel prices) were useful predictors of aviation activity. Some unique events (including the failure of U. S. air carriers to follow rational pricing policies; e.g., the destructive fare wars of 1986 and 1992; and the prolonged depressed state of the general aviation manufacturing industry) have altered the relationships between the key aviation variables and the economic variables used previously. It has been difficult, therefore, to produce economic or econometric models that predict aviation activity with the same degree of reliability as the models developed in earlier

periods. Thus, for the present, the forecasters must rely to a greater degree on subjective judgment, evaluation, and expertise than was.required previously. This is not at all unusual in times of significant change in a volatile industry.

THE FAA FORECASTING PROCESS

The FAA forecasting process is an interactive system that combines econometric and time series model results with aviation industry forecasts, expert opinions, and anticipated policy impacts to derive a set of FAA aviation forecasts that are used in the FAA decisionmaking process. The following flow diagram shows a generalized version of the FAA aviation forecasting process.

The first step in developing the forecasts is to enter the economic and demographic variables into a set of econometric models or equations that represent a simplified version of the real world. The degree of accuracy of the forecasts of aviation activities depends on both the accuracy of the forecasts of the independent variables and the ability of the models to portray activities in the real world.

The mechanical execution of forecast models is only the first step in producing a set of forecasts. In general, these models and equations are simple portrayals of a complex system. They cannot account for a number of political, social, psychological, and economic variables and for all the interrelated actions and reactions that eventually lead to a particular set of results. It is particularly important, therefore, that the initial model results are reviewed, revised, and adjusted to reflect the analysts' best judgment of the impacts of the events occurring or expected to occur during the forecast period.

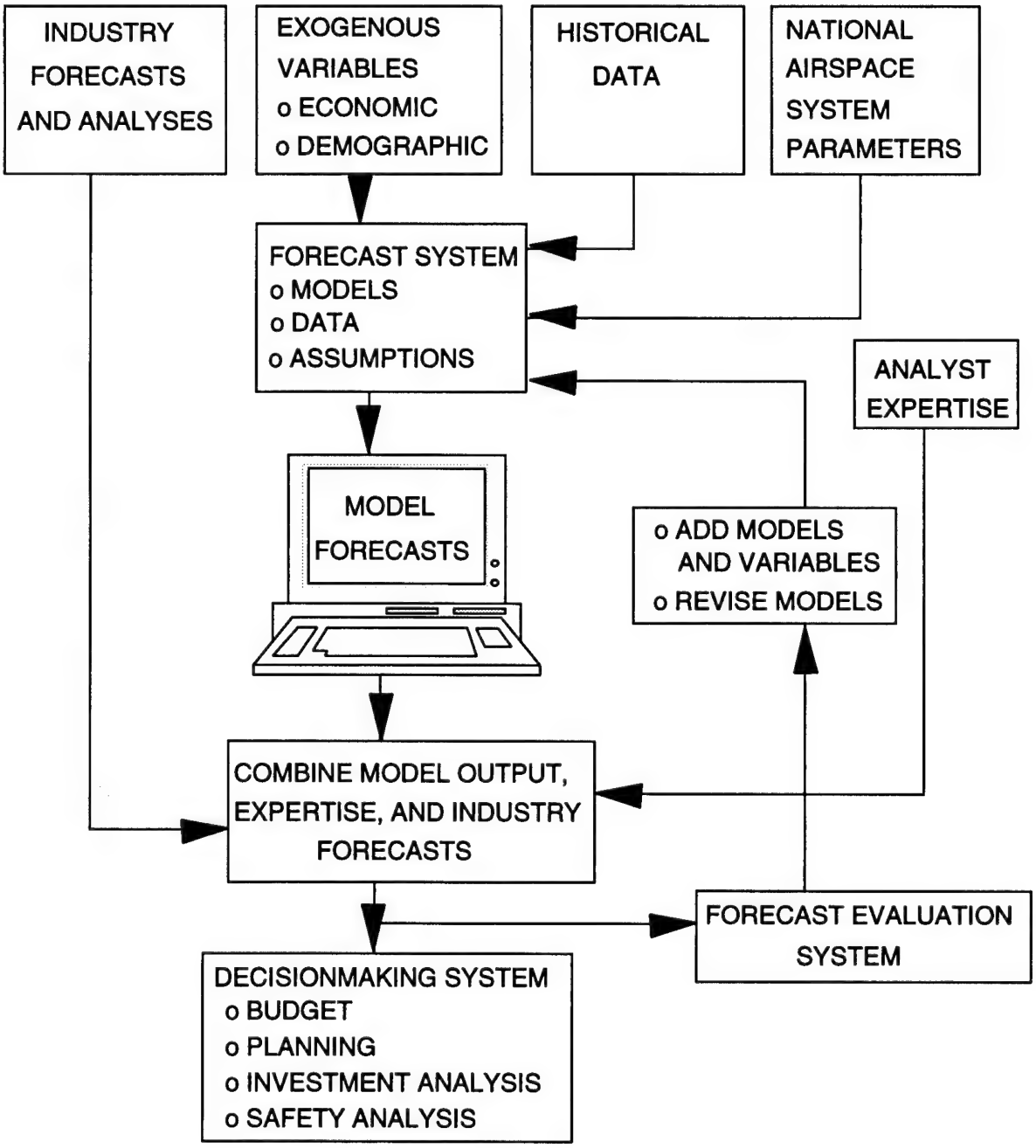
The FAA forecasting process is both continuous and iterative. As such, it is important to evaluate the forecast results and to determine the causes of the deviations of the forecast values from the actual values observed in the real world. The analysis of the errors generally identifies the causes of the deviations and helps determine the proportion due to improper model specifications, erroneous forecasts of independent variables, erroneous forecast assumptions, or incorrect judgments and opinions. If warranted, the forecast error analysis may lead to a reformulation of the model and to additions or deletions of independent variables, revisions of forecast assumptions, and/or changes in analysts' opinions and judgments about future events.

FORECAST EVALUATION

It is essential that the FAA forecasts of the demand for services at the FAA and contract towers, air route traffic control centers, and the flight service stations be accurate. Large forecast errors can lead to inefficient allocation of resources which, in turn, could lead to capacity constraints and delays or to excess capacity in the National Airspace System. For this reason, FAA must continuously evaluate the forecasting process and its results.

The evaluation of the forecast process proceeds on several fronts. On a monthly basis, FAA tracks its short-term forecasts of commercial air carrier traffic (enplanements and RPMs), aircraft operations, instrument operations, IFR aircraft handled, and flight services vis-à-vis the actual counts at the facilities. This tracking system alerts FAA management to unexpected deviations from the trends suggested by the forecasts. Inquiries are then initiated to determine the cause(s) of the differences and revised short-term forecasts may be generated, if necessary.

FAA FORECASTING SYSTEM



To help the analysts make correct decisions and informed judgments when developing the forecast assumptions, FAA holds meetings with industry representatives to discuss industry trends, recent developments, and possible future courses of events. Every 2 years, for example, in cooperation with the National Academy of Sciences, Transportation Research Board (TRB), the FAA sponsors an International Workshop on Future Aviation Activities--"forecast assumptions workshop." This workshop is attended by 70 to 80 industry planners and forecasters representing the airlines, aircraft manufacturers, engine manufacturers, and other industry groups.

The participants in various subgroups identify specific assumptions about the short-term and long-term future trends of the economic and aviation variables that are important to their segments of the industry, indicate why these are considered important, and show why specific trends are anticipated. After discussing the assumptions, the entire group attempts to reach a consensus about the key variables affecting the industry and the most likely future courses of these variables. Finally, the TRB publishes a workshop report. The participants benefit from the discussions and the analysts have the TRB workshop report as a benchmark for preparing forecasts or for evaluating forecasts prepared by other organizations. Assumptions developed at the TRB's ninth workshop (September 18-20, 1995) were used extensively in preparing last year's forecasts. The tenth workshop is planned for September 1997.

Formal and informal meetings with individuals and representatives of specific industry groups are another way the FAA promotes dialogue and discussion with the aviation community and solicits input and comments. Meetings are held regularly with the aircraft manufacturers, with members of the Air Transport Association, and with members of the General Aviation Manufacturers Association, Helicopter Association International, and other general aviation organizations. In addition, FAA analysts maintain one-on-one contact with industry representatives.

Another intermediate step in the FAA aviation forecast process is the public dissemination of the forecast results, solicitation of industry comments, and critique of the forecasts. One of the main avenues for this purpose is the Commercial Aviation Forecast Conference held annually in February or March. Now in its twenty-first year, the conference is generally attended by 500 participants who include airline executives, aircraft and engine manufacturers, consumer groups and other industry representatives, and the news media. To the maximum extent possible, FAA responds to questions raised about the forecasts both during and after the conference.

Because the importance of U.S. general aviation and the fact that its issues and problems cannot be adequately addressed in a single conference, the FAA also holds an annual 2-day General Aviation Forecast Conference. This conference, now in its sixth year, is attended by 250 participants from all segments of the general aviation community.

An important part of the conferences is the opportunity for various segments of the aviation community to make technical presentations on a variety of topics of interest to the aviation community. The forecast conferences establish avenues of communication through which FAA releases its forecast to the aviation community and the public and receives comments, criticisms, and feedback about the forecasts. The FAA also receives valuable information and insights through the papers presented at the forecast conferences. These papers are published annually in individual conference proceedings and are distributed to all conference attendees or by request.

FAA also seeks to improve forecast accuracy and credibility by inviting FAA regional and State participation in the forecast process. For example, facility level terminal area forecasts

(published separately as the *Terminal Area Forecast*), forecasts of aircraft handled at the ARTCCs, and flight service station forecasts are circulated to FAA regions for review and comments. The comments and suggested changes are incorporated in the final facility level reports. In the case of the terminal area forecasts, the FAA regions have the capability to make changes on personal computers. The final facility level forecasts derived by this procedure must be consistent with the national forecasts.

Periodically, FAA prepares a technical report that compares the accuracy of the forecasts of key workload measures with the accuracy of forecasts of economic variables prepared by major forecasting services. Based on the results of these studies, the FAA forecasts compare favorably with those produced by these major forecasting services.

FAA AVIATION FORECAST VARIABLES AND DATA SOURCES

TYPES OF VARIABLES AND VARIABLE NAMES	DATA SOURCES
ECONOMIC	
ECONOMIC ASSUMPTIONS	
Gross Domestic Product (GDP)	OMB, DRI, Evans, WEFA
Consumer Price Index (CPI)	OMB, DRI, Evans, WEFA
Oil and Gas Deflator	OMB, DRI, Evans, WEFA
AIR CARRIER	
FORECAST ASSUMPTIONS	
Domestic Operations	
Average seats per aircraft	BTS/computed
Average passenger trip length	BTS/computed
Revenue per passenger mile (current $)	BTS/computed
Revenue per passenger mile (1995 $)	Computed
Average jet fuel prices (current $)	BTS/computed
Average jet fuel prices (1995 $)	Computed
International Operations	
(Same as Domestic)	(Same)
SCHEDULED PASSENGER TRAFFIC	
Domestic	
Revenue passenger miles (RPMs)	BTS
Revenue passenger enplanements	BTS
Available seat miles	BTS
Load factors	Computed
International	
Revenue passenger miles by Regions	BTS
Revenue passenger enplanements by Regions	BTS
Available seat miles	BTS
Load factors	Computed

FAA AVIATION FORECAST VARIABLES AND DATA SOURCES (CONTINUED)

TYPES OF VARIABLES AND VARIABLE NAMES	DATA SOURCES
AIR CARRIER (CONTINUED)	
FLEET	
Large jet aircraft	FAA/AFS-620
HOURS FLOWN BY EQUIPMENT TYPE	
Large jet aircraft	BTS
FUEL CONSUMED	
Jet	
Domestic air carriers	BTS
International air carriers	BTS
General aviation	FAA/APO-110
Aviation Gasoline	FAA/APO-110
REGIONAL/COMMUTER	
FORECAST ASSUMPTIONS	
Average seats per aircraft	BTS/Computed
Average passenger trip length (48 states and Hawaii, Puerto Rico, Virgin Islands)	BTS/Computed
Average load factor	BTS/Computed
PASSENGER TRAFFIC	
Revenue passenger enplanements (48 states and Hawaii, Puerto Rico, Virgin Islands)	BTS
Revenue passenger miles (48 states and Hawaii, Puerto Rico, Virgin Islands)	BTS

FAA AVIATION FORECAST VARIABLES AND DATA SOURCES (CONTINUED)

TYPES OF VARIABLES AND VARIABLE NAMES	DATA SOURCES
REGIONAL/COMMUTER (CONTINUED)	
FLEET	
Aircraft less than 60 seats	FAA
HOURS FLOWN	
Total for all passenger airlines	BTS
GENERAL AVIATION	
FLEET	
Active aircraft by equipment type	FAA/APO-110
NUMBER OF AIRCRAFT BY REGION	
Total aircraft in each of nine FAA Regions	FAA/APO-110
HOURS FLOWN	
Hours flown by equipment type	FAA/APO-110
FUEL CONSUMED	
Fuel consumed by equipment type	FAA/APO-110
PILOTS	
Active Pilots by certificate type	FAA/APO-110

FAA AVIATION FORECAST VARIABLES AND DATA SOURCES (CONTINUED)

TYPES OF VARIABLES AND VARIABLE NAMES	DATA SOURCES
FAA WORKLOAD MEASURES	
FAA TOWERS	
Number of FAA Towers	FAA/APO-110
Number of contract Towers	FAA/ATR-107
Aircraft Operations:	
Itinerant and local operations by aviation category	FAA/APO-110
Instrument Operations by aviation category	FAA/APO-110
Non-IFR Instrument Operations:	
Terminal control areas	FAA/APO-110
Expanded radar service areas	FAA/APO-110
AIR ROUTE TRAFFIC CONTROL CENTERS	
IFR Departures by aviation category	FAA/APO-110
IFR Overs by aviation category	FAA/APO-110
FLIGHT SERVICE STATIONS	
IFR-DVFR flight plans originated	FAA/APO-110
VFR flight plans originated	FAA/APO-110
Pilot briefings	FAA/APO-110
Aircraft contacted by aviation category	FAA/APO-110
IFR-DVFR aircraft contacted	FAA/APO-110
VFR aircraft contacted	FAA/APO-110
MILITARY	
FLEET	
Aircraft by equipment type	DOD
HOURS	
Hours flown by equipment type	DOD

FAA AVIATION FORECAST VARIABLES AND DATA SOURCES (CONTINUED)

TYPES OF VARIABLES AND VARIABLE NAMES	DATA SOURCES
TERMINAL AREA FORECASTS (2000 Towered and Nontowered Airports)	
ENPLANEMENTS	
U. S. Flag Carrier	BTS
Foreign Flag Carrier	INS/BTS
Regional/Commuter	BTS
Air Taxi	FAA/VNTSC
OPERATIONS	
Towered Airports:	
Aircraft operations by aviation segment	FAA/APO-110
Nontowered Airports	FAA/NFDC

OMB--Office of Management and Budget
DRI--DRI/McGraw-Hill, Inc.
Evans--Evans Economics, Inc.
WEFA--The WEFA Group
BTS--Bureau of Transportation Statistics, Department of Transportation
AFS-620--Operations Systems Branch, FAA
APO-110--Statistics and Forecast Branch, FAA
DOD--Department of Defense
INS--Immigration and Naturalization Service, Department of Justice
VNTSC--Volpe National Transportation Systems Center, Research and Special Programs Administration, Department of Transportation
NFDC--National Flight Data Center, FAA

CHAPTER IX

YEAR-BY-YEAR DATA FOR FAA AVIATION FORECASTS

FISCAL YEARS 1996 - 2007

Chapter IX provides the detailed data for the National Aviation and FAA workload series forecasted by the FAA Office of Aviation Policy and Plans. The following should be noted:

- Table 10 - Contains the unduplicated passenger traffic reported by U.S. scheduled air carriers reporting on BTS Form 41 and commuter carriers reporting on BTS Form 298-C.

- Table 11 - Includes the following traffic which is also reported as commuter/regionals traffic in Table 19.

YEAR	ENPLANEMENTS (Millions)	RPMs (Millions)
1987	4.100	683.6
1988	3.117	583.3
1989	4.072	861.2
1990	4.674	984.9
1991	6.559	1,315.3
1992	9.981	1,906.5
1993	12.574	2,632.3
1994	16.558	3,428.3
1995	20.088	4,133.2

- Table 19 - Includes the duplicated traffic listed above for those air carriers and commuters/regionals reporting on both BTS Form 41 and 298-C.

  - Forecasts and historical data exclude Alaska and foreign territory traffic.

  - The forecasts exclude the following carriers because of the predominance of jet aircraft in their fleets: Altair (beginning in 1982), Empire (1985), and Air Wisconsin (1987).

- Table 20 - Includes only aircraft with 60 seats or less.

- Table 26 - Includes the rotorcraft fleet and hours flown shown in Tables 21 and 23.

TABLE 1

U.S. SHORT-TERM ECONOMIC FORECASTS

ECONOMIC VARIABLE	FISCAL YEAR 1996				FISCAL YEAR 1997			
	1ST. QTR.	2ND. QTR.	3RD QTR.	4TH. QTR.	1ST. QTR.	2ND. QTR.	3RD QTR.	4TH. QTR.
REAL GDP								
(1987 $)								
DRI/McGRAW-HILL	5,561.6	5,591.8	5,608.8	5,642.9	5,687.4	5,727.9	5,768.0	5,803.6
EVANS ECONOMETRICS	5,572.3	5,617.5	5,645.6	5,684.8	5,705.9	5,727.8	5,759.7	5,798.9
THE WEFA GROUP	5,573.5	5,604.3	5,636.4	5,669.8	5,705.2	5,738.3	5,771.5	5,803.5
OMB	5,580.8	5,613.6	5,648.0	5,690.6	5,731.8	5,771.7	5,813.6	5,852.4
CONSUMER PRICE INDEX*								
(1987 EQUALS 100)								
DRI/McGRAW-HILL	153.9	155.1	156.2	157.2	158.2	159.3	160.3	161.4
EVANS ECONOMETRICS	153.8	154.8	155.9	157.0	157.9	158.9	159.9	160.8
THE WEFA GROUP	154.0	155.0	156.0	157.0	157.8	158.9	159.7	160.8
OMB	154.4	155.4	156.5	157.5	158.5	159.5	160.5	161.5
OIL AND GAS DEFLATOR								
(1982-84 EQUALS 100)								
DRI/McGRAW-HILL	120.9	124.3	126.7	125.4	124.6	124.7	124.9	125.2
EVANS ECONOMETRICS	122.9	122.3	123.1	123.6	124.6	125.4	126.1	126.9
THE WEFA GROUP	122.3	123.6	124.8	126.0	127.3	128.5	128.7	130.3
OMB	131.2	132.2	133.2	133.8	134.5	135.5	136.5	137.3

Source: DRI/McGraw-Hill, Inc., January 1996; Evans Economics, December 1995 for GDP and price index and November for Oil and Gas Deflator; The WEFA Group, December 1995; and OMB, January 1996.

* Price index for urban consumers.

TABLE 2

U.S. LONG-TERM ECONOMIC FORECASTS

OMB (1996-2001) AND CONSENSUS (2002-2007)

FISCAL YEAR	GROSS DOMESTIC PRODUCT (Billions 1987$)	CONSUMER PRICE INDEX (1982-84=100)	OIL AND GAS DEFLATOR (1987 = 100)
Historical			
1990	4,894.7	129.0	121.8
1991	4,858.3	134.8	124.3
1992	4,939.1	137.2	123.5
1993	5,095.2	141.2	122.2
1994	5,290.1	144.7	122.7
1995E	5,484.1	148.8	126.5
Forecast			
1996	5,633.2	152.7	132.6
1997	5,792.4	157.3	136.0
1998	5,956.5	161.8	139.8
1999	6,121.2	166.3	144.0
2000	6,289.5	171.0	147.9
2001	6,467.3	175.8	151.9
2002	6,627.2	180.9	157.9
2003	6,788.4	186.2	164.2
2004	6,955.1	191.9	170.6
2005	7,127.1	197.9	177.1
2006	7,300.3	204.3	185.3
2007	7,475.8	211.1	193.0

Source: 1996-2001: Office of Management and Budget, January 1996,
2002-2007: Consensus forecast based on average growth rates for DRI/McGraw-Hill, Evans Economics, and WEFA forecasts (See Table 3), adjusted to fiscal year basis.

TABLE 3

ALTERNATIVE U.S. LONG-TERM ECONOMIC FORECASTS

CALENDAR YEAR	GROSS DOMESTIC PRODUCT (Billions 1987$)			CONSUMER PRICE INDEX (1982-84 = 100)			FUEL PRICE INDEX (1982 = 100)		
	DRI	EVANS	WEFA	DRI	EVANS	WEFA	DRI	EVANS	WEFA
Historical									
1990	4,897.3	4,897.3	4,897.3	130.7	130.8	130.7	125.7	123.9	125.7
1991	4,861.4	4,861.4	4,861.4	134.1	134.1	134.1	123.8	123.9	123.8
1992	4,986.2	4,986.2	4,986.2	138.2	138.2	138.2	123.3	123.3	123.3
1993	5,134.5	5,134.5	5,134.5	142.1	142.1	142.1	122.2	122.2	122.2
1994	5,344.0	5,344.0	5,344.0	145.7	145.7	145.7	122.8	122.9	122.8
1995E	5,519.0	5,495.1	5,519.0	149.8	149.9	149.8	125.5	127.8	125.5
Forecast									
1996	5,658.0	5,614.6	5,653.9	154.0	154.0	153.5	126.5	127.1	125.4
1997	5,805.0	5,745.6	5,788.4	158.3	158.1	157.0	128.1	130.5	129.9
1998	5,960.0	5,909.7	5,924.6	163.0	162.4	160.8	130.7	133.8	135.3
1999	6,102.0	6,086.2	6,070.7	167.9	167.3	164.5	132.9	137.1	141.1
2000	6,272.0	6,247.8	6,217.0	173.2	172.5	168.3	138.3	140.4	149.0
2001	6,437.0	6,408.7	6,377.6	178.9	177.5	172.4	144.7	143.7	157.2
2002	6,581.0	6,573.1	6,536.7	184.8	182.6	176.7	151.6	146.9	164.7
2003	6,729.0	6,741.9	6,699.1	191.0	187.9	181.3	159.4	150.2	172.1
2004	6,875.0	6,919.2	6,872.2	197.8	193.5	186.0	167.3	153.5	179.5
2005	7,029.0	7,107.6	7,042.0	205.2	199.3	190.9	175.4	156.8	187.0
2006	7,184.0	7,301.1	7,204.7	213.6	205.3	196.3	189.3	160.2	195.0
2007	7,342.4	7,499.9	7,368.0	222.3	211.5	201.8	198.8	163.6	203.5

Source: DRI/McGraw-Hill, November, 1995; Evans Economics, Inc., October 1995; and the WEGA Group, November 1995

* Extrapolated to 2007 for forecast purposes

TABLE 4

INTERNATIONAL GDP FORECASTS

CALENDAR YEAR	GROSS DOMESTIC PRODUCT (In Billions of 1990 U.S. Dollars)			
	EUROPE/ AFRICA/ MIDDLE EAST	LATIN AMERICA/ MEXICO	JAPAN/PACIFIC BASIN/CHINA/OTHER ASIA/AUSTRALIA/ N. ZEALAND	WORLD
Historical*				
1990	8,486.3	1,056.6	4,816.3	22,787.9
1991	8,587.7	1,090.4	5,031.9	22,879.1
1992	8,726.7	1,118.3	5,197.4	22,973.0
1993	8,726.3	1,156.8	5,338.2	23,140.2
1994	8,944.2	1,214.8	5,527.6	23,637.6
1995E	9,215.4	1,233.3	5,731.1	24,280.0
Forecast				
1996	9,496.9	1,282.1	5,996.3	25,088.0
1997	9,800.7	1,347.6	6,291.1	26,003.6
1998	10,102.7	1,423.2	6,640.2	26,982.7
1999	10,406.7	1,500.6	6,992.1	27,992.9
2000	10,720.7	1,572.0	7,346.5	28,992.9
2001	11,055.9	1,647.5	7,713.0	30,036.6
2002	11,403.0	1,726.5	8,101.6	31,118.0
2003	11,762.5	1,809.4	8,513.9	32,238.2
2004	12,134.9	1,896.3	8,951.6	33,398.8
2005	12,520.8	1,989.2	9,381.3	34,601.1
2006	12,920.8	2,086.6	9,836.8	35,846.8
2007	13,335.4	2,188.9	10,319.8	37,137.3

Source: The WEFA Group, World Economic Outlook, October 1995

TABLE 5

INTERNATIONAL EXCHANGE RATE FORECASTS

CALENDAR YEAR	FOREIGN EXCHANGE RATES (US$/Local Currency, Average)			UNITED STATES EFFECTIVE EXCHANGE RATE (1985 = 100)
	UNITED KINGDOM	WEST*/UNITED GERMANY	JAPAN	
Historical*				
1990	1.818	0.669	6.924	100.000
1991	1.764	0.603	7.433	98.710
1992	1.755	0.640	7.896	97.260
1993	1.500	0.605	8.994	99.690
1994	1.530	0.616	9.779	99.080
1995E	1.573	0.705	10.685	99.100
Forecast				
1996	1.492	0.647	9.613	101.120
1997	1.449	0.603	9.050	101.060
1998	1.445	0.602	8.971	100.040
1999	1.447	0.601	9.133	99.430
2000	1.448	0.596	9.216	NA
2001	1.449	0.595	9.299	NA
2002	1.451	0.594	9.383	NA
2003	1.452	0.593	9.467	NA
2004	1.454	0.592	9.552	NA
2005	1.455	0.591	9.638	NA
2006	1.457	0.590	9.725	NA
2007	1.458	0.589	9.813	NA

Source: The WEFA Group, World Economic Outlook, October 1995
NA: Not Available

TABLE 6

BASELINE AIR CARRIER FORECAST ASSUMPTIONS

TOTAL SYSTEM OPERATIONS

FISCAL YEAR	AVERAGE SEATS PER AIRCRAFT (Seats)	AVERAGE PASSENGER TRIP LENGTH (Miles)	REVENUE PER PASSENGER MILE		AVERAGE JET FUEL PRICE	
			CURRENT $ (Cents)	FY 1995 $ (Cents)	CURRENT $ (Cents)	FY 1995 $ (Cents)
Historical*						
1990	169.0	976.0	12.61	14.54	67.6	78.0
1991	167.8	986.8	12.83	14.17	79.4	87.6
1992	168.3	1,005.0	12.55	13.61	64.5	69.9
1993	166.4	1,008.7	13.05	13.75	61.9	65.3
1994	163.2	983.8	12.76	13.13	56.5	58.0
1995E	161.3	985.9	12.73	12.73	55.6	55.6
Forecast						
1996	161.2	988.6	12.94	12.61	57.9	56.4
1997	161.0	986.8	12.96	12.26	59.4	56.2
1998	160.7	985.5	13.00	11.96	61.0	56.1
1999	162.0	991.0	13.26	11.87	62.8	56.2
2000	163.2	996.7	13.53	11.77	64.6	56.2
2001	165.3	1,001.9	13.81	11.69	66.3	56.1
2002	167.4	1,007.0	14.09	11.59	69.0	56.7
2003	169.5	1,012.6	14.38	11.49	71.7	57.3
2004	171.7	1,018.0	14.69	11.39	74.5	57.8
2005	173.7	1,023.3	15.00	11.28	77.3	58.2
2006	175.7	1,028.2	15.33	11.16	80.9	58.9
2007	177.6	1,031.7	15.67	11.04	84.2	59.4

* Source: BTS, Form 41

TABLE 7

BASELINE AIR CARRIER FORECAST ASSUMPTIONS

DOMESTIC OPERATIONS

FISCAL YEAR	AVERAGE SEATS PER AIRCRAFT (Seats)	AVERAGE PASSENGER TRIP LENGTH (Miles)	REVENUE PER PASSENGER MILE		AVERAGE JET FUEL PRICE	
			CURRENT $ (Cents)	FY 1995 $ (Cents)	CURRENT $ (Cents)	FY 1995 $ (Cents)
Historical*						
1990	151.7	799.7	13.26	15.30	66.8	77.0
1991	151.0	807.0	13.31	14.69	76.6	84.5
1992	150.5	805.9	12.92	14.01	62.7	68.0
1993	149.7	803.2	13.67	14.41	60.0	63.2
1994	146.6	786.7	13.37	13.75	54.7	56.3
1995E	144.4	791.3	13.31	13.31	54.1	54.1
Forecast						
1996	143.9	792.0	13.57	13.22	56.3	54.9
1997	143.4	789.0	13.57	12.84	57.8	54.7
1998	142.9	787.0	13.57	12.48	59.4	54.6
1999	143.9	789.0	13.84	12.38	61.1	54.7
2000	144.9	791.0	14.12	12.29	62.8	54.7
2001	146.9	793.0	14.40	12.19	64.5	54.6
2002	148.9	795.0	14.69	12.08	67.1	55.2
2003	150.9	797.0	14.98	11.97	69.8	55.8
2004	152.9	799.0	15.28	11.85	72.5	56.2
2005	154.9	801.0	15.59	11.72	75.3	56.6
2006	156.9	803.0	15.90	11.58	78.7	57.3
2007	158.9	805.0	16.22	11.43	82.0	57.8

*Source: BTS, Form 41

TABLE 8

BASELINE AIR CARRIER FORECAST ASSUMPTIONS

INTERNATIONAL OPERATIONS (PART 1)

FISCAL YEAR	AVERAGE SEATS PER AIRCRAFT (Seats)	AVERAGE PASSENGER TRIP LENGTH (Miles)	REVENUE PER PASSENGER MILE		AVERAGE JET FUEL PRICE	
			CURRENT $ (Cents)	FY 1995 $ (Cents)	CURRENT $ (Cents)	FY 1995 $ (Cents)
Historical*						
1990	273.3	2,786.2	10.68	12.32	70.5	81.3
1991	262.8	2,856.4	11.43	12.62	87.7	96.8
1992	255.9	3,016.5	11.55	12.53	69.6	75.5
1993	244.4	2,981.9	11.45	12.07	67.5	71.1
1994	243.6	2,992.5	11.14	11.46	61.5	63.2
1995E	247.8	2,978.1	11.17	11.17	59.8	59.8
Forecast						
1996	249.2	2,965.5	11.24	10.95	62.3	60.7
1997	250.5	2,966.1	11.32	10.72	63.9	60.5
1998	251.3	2,964.1	11.50	10.57	65.7	60.4
1999	251.5	2,963.4	11.75	10.52	67.6	60.5
2000	252.1	2,965.8	12.03	10.47	69.5	60.5
2001	252.1	2,964.2	12.31	10.42	71.4	60.4
2002	252.2	2,962.2	12.61	10.37	74.3	61.1
2003	252.2	2,962.7	12.92	10.33	77.2	61.7
2004	252.5	2,964.2	13.26	10.28	80.2	62.2
2005	252.6	2,964.8	13.61	10.23	83.3	62.6
2006	252.6	2,965.2	13.99	10.19	87.1	63.4
2007	252.7	2,965.5	14.39	10.14	90.7	63.9

* Source: BTS, Form 41

TABLE 9

BASELINE AIR CARRIER FORECAST ASSUMPTIONS

INTERNATIONAL OPERATIONS (PART 2)

FISCAL YEAR	AVERAGE SEATS PER AIRCRAFT			REVENUE PER PASSENGER MILE					
				ATLANTIC		LATIN AMERICA		PACIFIC	
	ATLANTIC (Seats)	LATIN AMERICA (Seats)	PACIFIC (Seats)	CURRENT $ (Cents)	FY 1995 $ (Cents)	CURRENT $ (Cents)	FY 1995 $ (Cents)	CURRENT $ (Cents)	FY 1995 $ (Cents)
Historical*									
1990	278.6	194.0	318.6	9.56	11.03	12.01	13.85	11.55	13.32
1991	257.7	187.0	321.9	9.98	11.02	12.43	13.72	12.48	13.78
1992	245.2	182.8	320.2	9.89	10.73	13.35	14.48	12.77	13.85
1993	231.9	179.1	318.3	9.38	9.88	13.66	14.40	13.00	13.70
1994	233.3	177.7	320.2	9.29	9.55	14.08	14.48	12.18	12.53
1995E	238.2	180.5	322.0	9.88	9.88	13.70	13.70	11.55	11.55
Forecast									
1996	240.9	181.0	322.0	10.24	9.98	13.57	13.22	11.32	11.03
1997	242.5	181.5	322.0	10.54	9.98	13.55	12.82	11.19	10.59
1998	243.0	182.0	323.0	10.80	9.93	13.67	12.57	11.28	10.38
1999	243.0	182.5	323.0	11.04	9.88	13.90	12.44	11.54	10.33
2000	243.0	183.0	324.0	11.30	9.83	14.23	12.38	11.81	10.27
2001	243.0	183.0	324.0	11.56	9.78	14.55	12.32	12.08	10.22
2002	243.0	183.0	324.0	11.83	9.73	14.90	12.26	12.37	10.17
2003	243.0	183.0	324.0	12.12	9.68	15.26	12.19	12.66	10.12
2004	243.0	183.0	325.0	12.43	9.63	15.65	12.13	12.99	10.07
2005	243.0	183.0	325.0	12.75	9.59	16.06	12.07	13.33	10.02
2006	243.0	183.0	325.0	13.10	9.54	16.49	12.01	13.69	9.97
2007	243.0	183.0	325.0	13.46	9.49	16.96	11.95	14.07	9.92

*Source: BTS, Form 41

TABLE 10

UNITED STATES COMMERCIAL AIR CARRIERS AND REGIONALS/COMMUTERS

TOTAL SCHEDULED PASSENGER TRAFFIC 1/

FISCAL YEAR	REVENUE PASSENGER ENPLANEMENTS (Millions)			REVENUE PASSENGER MILES (Billions)		
	DOMESTIC	INTERNATIONAL	TOTAL	DOMESTIC	INTERNATIONAL	TOTAL
Historical*						
1990	456.6	41.3	497.9	344.8	115.1	459.9
1991	445.4	39.7	485.1	339.3	113.5	452.8
1992	463.0	42.6	505.6	353.3	128.4	481.7
1993	468.1	45.1	513.2	355.4	134.7	490.1
1994	508.6	46.4	555.0	379.0	138.6	517.6
1995E	529.5	48.4	577.9	400.1	144.2	544.3
Forecast						
1996	547.0	50.9	597.9	413.7	150.9	564.6
1997	578.0	54.0	632.0	435.5	160.2	595.7
1998	609.9	57.2	667.1	458.5	169.5	628.0
1999	632.0	60.4	692.4	476.0	179.0	655.0
2000	654.8	63.7	718.5	494.0	188.9	682.9
2001	679.0	67.2	746.2	513.2	199.2	712.4
2002	702.1	70.7	772.8	531.5	209.4	740.9
2003	725.2	74.3	799.5	550.2	220.1	770.3
2004	749.7	78.1	827.8	569.8	231.6	801.4
2005	775.5	82.1	857.6	590.7	243.4	834.1
2006	802.1	86.2	888.3	612.3	255.7	868.0
2007	830.1	89.9	920.0	635.2	266.6	901.8

* Source: BTS, Forms 41 and 298-C

1/ Sum of Table's 11 and 19 less duplicated traffic.

TABLE 11

UNITED STATES COMMERCIAL AIR CARRIERS

SCHEDULED PASSENGER TRAFFIC

FISCAL YEAR	REVENUE PASSENGER ENPLANEMENTS (Millions)			REVENUE PASSENGER MILES (Billions)		
	DOMESTIC	INTERNATIONAL	TOTAL	DOMESTIC	INTERNATIONAL	TOTAL
Historical*						
1990	424.1	41.3	465.4	339.2	115.1	454.3
1991	413.3	39.7	453.0	333.6	113.5	447.1
1992	430.3	42.6	472.9	346.7	128.4	475.1
1993	434.0	45.1	479.1	348.6	134.7	483.3
1994	472.0	46.4	518.4	371.3	138.6	509.9
1995E	495.9	48.4	544.3	392.4	144.2	536.6
Forecast						
1996	511.8	50.9	562.7	405.3	150.9	556.3
1997	540.4	54.0	594.4	426.4	160.2	586.6
1998	570.0	57.2	627.2	448.6	169.5	618.1
1999	589.6	60.4	650.0	465.2	179.0	644.2
2000	609.8	63.7	673.5	482.4	188.9	671.3
2001	631.4	67.2	698.6	500.7	199.2	699.9
2002	651.9	70.7	722.6	518.2	209.4	727.6
2003	672.3	74.3	746.6	535.9	220.1	756.0
2004	694.1	78.1	772.2	554.6	231.6	786.2
2005	717.3	82.1	799.4	574.6	243.4	818.0
2006	741.3	86.2	827.5	595.3	255.7	851.0
2007	766.8	89.9	856.7	617.3	266.6	883.9

Source: BTS Form 41

TABLE 12

UNITED STATES COMMERCIAL AIR CARRIERS

SCHEDULED INTERNATIONAL PASSENGER TRAFFIC

FISCAL YEAR	REVENUE PASSENGER ENPLANEMENTS (MIL)				REVENUE PASSENGER MILES (BIL)			
	ATLANTIC	LATIN AMERICA	PACIFIC	TOTAL	ATLANTIC	LATIN AMERICA	PACIFIC	TOTAL
Historical*								
1990	16.1	13.0	12.2	41.3	53.7	16.0	45.4	115.1
1991	12.2	14.7	12.8	39.7	47.1	18.3	48.1	113.5
1992	14.8	13.6	14.2	42.6	57.7	17.1	53.6	128.4
1993	15.7	15.8	13.6	45.1	61.5	20.8	52.4	134.7
1994	16.5	16.5	13.4	46.4	64.2	22.0	52.4	138.6
1995E	16.2	17.9	14.3	48.4	64.4	24.3	55.5	144.2
Forecast								
1996	16.6	19.1	15.2	50.9	66.0	26.0	58.9	150.9
1997	17.3	20.4	16.3	54.0	68.9	28.0	63.3	160.2
1998	18.0	21.8	17.4	57.2	72.0	29.9	67.6	169.5
1999	18.8	23.1	18.5	60.4	75.2	31.9	71.9	179.0
2000	19.6	24.5	19.6	63.7	78.4	33.9	76.6	188.9
2001	20.4	25.9	20.9	67.2	81.7	36.1	81.4	199.2
2002	21.2	27.4	22.1	70.7	84.9	38.3	86.2	209.4
2003	22.0	29.0	23.3	74.3	88.2	40.6	91.3	220.1
2004	22.8	30.6	24.7	78.1	91.8	43.1	96.7	231.6
2005	23.7	32.3	26.1	82.1	95.4	45.6	102.4	243.4
2006	24.6	34.1	27.5	86.2	99.2	48.3	108.2	255.7
2007	25.3	35.7	28.9	89.9	102.3	50.7	113.6	266.6

* Source: BTS, Form 41

TABLE 13

UNITED STATES COMMERCIAL AIR CARRIERS

SCHEDULED PASSENGER CAPACITY, TRAFFIC AND LOAD FACTORS

FISCAL YEAR	DOMESTIC			INTERNATIONAL		
	ASM'S (BIL)	RPM'S (BIL)	% LOAD FACTOR	ASM'S (BIL)	RPM'S (BIL)	% LOAD FACTOR
Historical*						
1990	557.6	339.2	60.8	166.2	115.1	69.2
1991	548.4	333.6	60.8	169.3	113.5	67.0
1992	554.1	346.7	62.6	191.6	128.4	67.0
1993	568.8	348.6	61.3	199.5	134.7	67.5
1994	578.0	371.3	64.2	197.9	138.6	70.0
1995E	601.7	392.4	65.2	202.1	144.2	71.4
Forecast						
1996	618.8	405.3	65.5	210.9	150.9	71.6
1997	646.1	426.4	66.0	223.1	160.2	71.8
1998	679.7	448.6	66.0	235.9	169.5	71.9
1999	704.8	465.2	66.0	249.3	179.0	71.8
2000	730.9	482.4	66.0	263.1	188.9	71.8
2001	758.7	500.7	66.0	277.5	199.2	71.8
2002	785.2	518.2	66.0	291.8	209.4	71.8
2003	811.9	535.9	66.0	306.8	220.1	71.7
2004	840.3	554.6	66.0	322.9	231.6	71.7
2005	870.6	574.6	66.0	339.6	243.4	71.7
2006	901.9	595.3	66.0	356.8	255.7	71.7
2007	935.3	617.3	66.0	372.2	266.6	71.6

*Source: BTS, Form 41

TABLE 14

UNITED STATES COMMERCIAL AIR CARRIERS

SCHEDULED PASSENGER CAPACITY, TRAFFIC AND LOAD FACTORS BY INTERNATIONAL TRAVEL REGIONS

FISCAL YEAR	ATLANTIC			LATIN AMERICA			PACIFIC		
	ASM'S (BIL)	RPM'S (BIL)	% LOAD FACTOR	ASM'S (BIL)	RPM'S (BIL)	% LOAD FACTOR	ASM'S (BIL)	RPM'S (BIL)	% LOAD FACTOR
Historical*									
1990	77.0	53.7	69.8	25.7	16.0	62.3	63.6	45.4	71.4
1991	67.8	47.1	69.5	29.4	18.3	62.3	72.1	48.1	66.7
1992	83.8	57.7	68.9	29.4	17.1	58.3	78.4	53.6	68.4
1993	88.7	61.5	69.4	35.9	20.8	57.9	74.9	52.4	70.1
1994	89.1	64.2	72.1	36.2	22.0	60.9	72.6	52.4	72.1
1995E	85.9	64.4	75.0	38.6	24.3	63.0	77.6	55.5	71.5
Forecast									
1996	88.0	66.0	75.0	41.0	26.0	63.5	81.9	58.9	72.0
1997	91.9	68.9	75.0	43.4	28.0	64.5	87.8	63.3	72.0
1998	96.0	72.0	75.0	46.1	29.9	65.0	93.8	67.6	72.0
1999	100.3	75.2	75.0	49.1	31.9	64.9	99.9	71.9	72.0
2000	104.6	78.4	75.0	52.2	33.9	65.0	106.3	76.6	72.0
2001	109.0	81.7	75.0	55.5	36.1	65.0	113.0	81.4	72.0
2002	113.2	84.9	75.0	58.9	38.3	65.0	119.7	86.2	72.0
2003	117.6	88.2	75.0	62.5	40.6	65.0	126.7	91.3	72.0
2004	122.3	91.8	75.0	66.3	43.1	65.0	134.3	96.7	72.0
2005	127.2	95.4	75.0	70.2	45.6	65.0	142.2	102.4	72.0
2006	132.2	99.2	75.0	74.3	48.3	65.0	150.3	108.2	72.0
2007	136.4	102.3	75.0	78.0	50.7	65.0	157.8	113.6	72.0

* Source: BTS, Form 41

TABLE 15

UNITED STATES COMMERCIAL AIR CARRIERS

LARGE JET AIRCRAFT

AS OF	NARROWBODY			WIDEBODY			
JANUARY 1	2 ENGINE	3 ENGINE	4 ENGINE	2 ENGINE	3 ENGINE	4 ENGINE	TOTAL
Historical*							
1990	1,911	1,185	250	197	283	181	4,007
1991	2,113	1,194	246	210	290	191	4,244
1992	2,178	1,091	208	221	309	201	4,208
1993	2,327	991	207	239	330	169	4,263
1994	2,526	935	217	263	315	170	4,426
1995E	2,736	877	241	269	283	176	4,582
Forecast							
1996	2,838	860	249	294	305	174	4,720
1997	2,931	848	247	300	287	171	4,784
1998	3,046	821	247	343	291	172	4,920
1999	3,175	754	232	408	294	173	5,036
2000	3,292	580	205	474	301	175	5,027
2001	3,516	584	206	527	293	180	5,306
2002	3,719	586	206	570	282	184	5,547
2003	3,906	575	208	619	269	187	5,764
2004	4,090	562	208	657	265	190	5,972
2005	4,271	550	209	695	258	191	6,174
2006	4,441	538	210	732	258	198	6,377
2007	4,594	538	210	760	257	205	6,564

TABLE 16

UNITED STATES COMMERCIAL AIR CARRIERS

TOTAL AIRBORNE HOURS

(In Thousands)

FISCAL YEAR	NARROWBODY			WIDEBODY			TOTAL
	2 ENGINE	3 ENGINE	4 ENGINE	2 ENGINE	3 ENGINE	4 ENGINE	
Historical*							
1990	5,138	2,589	421	698	946	665	10,457
1991	5,577	2,261	345	743	909	645	10,480
1992	5,979	2,033	247	825	1,016	579	10,679
1993	6,470	1,889	267	931	1,052	529	11,138
1994	7,057	1,675	282	958	977	533	11,482
1995E	7,628	1,553	312	970	925	552	11,940
Forecast							
1996	7,946	1,514	321	1,061	991	543	12,376
1997	8,207	1,484	316	1,083	933	533	12,556
1998	8,529	1,396	316	1,238	946	537	12,962
1999	8,890	1,244	297	1,473	956	540	13,400
2000	9,218	957	262	1,711	978	546	13,672
2001	9,845	934	264	1,902	952	562	14,459
2002	10,413	938	264	2,058	917	574	15,164
2003	10,937	920	266	2,235	874	583	15,815
2004	11,452	899	266	2,372	861	592	16,442
2005	11,959	880	268	2,509	839	596	17,051
2006	12,435	861	269	2,643	839	618	17,665
2007	12,863	861	269	2,744	835	640	18,212

* Source: BTS, Form 41

TABLE 17

TOTAL JET FUEL AND AVIATION GASOLINE FUEL CONSUMPTION

UNITED STATES CIVIL AVIATION AIRCRAFT

(Millions of Gallons)

FISCAL YEAR	JET FUEL					AVIATION GASOLINE			TOTAL FUEL CONSUMED
	U.S. AIR CARRIERS			GENERAL AVIATION	TOTAL	AIR CARRIER	GENERAL AVIATION	TOTAL	
	DOMESTIC	INT'L.	TOTAL						
Historical*									
1990	12,439	3,812	16,251	627	16,878	3	326	329	17,207
1991	11,657	3,998	15,655	586	16,241	2	347	349	16,590
1992	11,704	4,065	15,769	515	16,284	2	324	326	16,610
1993	11,899	4,109	16,008	464	16,472	2	280	282	16,754
1994	12,202	4,227	16,429	467	16,896	2	265	267	17,163
1995E	12,652	4,411	17,063	470	17,533	2	260	262	17,795
Forecast									
1996	13,111	4,487	17,598	477	18,075	2	257	259	18,334
1997	13,610	4,717	18,327	489	18,816	2	255	257	19,073
1998	14,226	4,956	19,182	502	19,684	2	257	259	19,943
1999	14,696	5,205	19,901	515	20,416	2	260	262	20,678
2000	15,159	5,459	20,618	528	21,146	2	263	265	21,411
2001	15,645	5,722	21,367	542	21,909	2	265	267	22,176
2002	16,125	5,980	22,105	556	22,661	2	266	268	22,929
2003	16,627	6,248	22,875	569	23,444	2	268	270	23,714
2004	17,156	6,536	23,692	583	24,275	2	270	272	24,547
2005	17,721	6,712	24,433	597	25,030	2	271	273	25,303
2006	18,308	7,136	25,444	612	26,056	2	273	275	26,331
2007	18,854	7,400	26,254	626	26,880	2	274	276	27,156

* Source: Air carrier jet fuel, BTS Form 41; All others, FAA APO estimates

TABLE 18

BASELINE REGIONALS/COMMUTERS FORECAST ASSUMPTIONS

FISCAL YEAR	AVERAGE SEATS PER AIRCRAFT (Seats)	AVERAGE PASSENGER TRIP LENGTH		AVERAGE PASSENGER LOAD FACTOR (Percent)
		48 STATES (Miles)	HA/P.R./V.I. (Miles)	
Historical*				
1990	20.8	183.5	82.8	47.1
1991	21.5	185.7	82.0	46.8
1992	22.9	196.9	85.8	48.1
1993	23.0	204.2	88.6	48.5
1994	23.7	212.6	90.1	50.5
1995E	23.7	216.6	104.2	48.7
Forecast				
1996	24.5	221.0	105.2	49.9
1997	26.8	226.0	105.4	50.6
1998	27.8	230.0	105.4	51.2
1999	28.7	234.0	105.5	51.6
2000	29.6	238.0	105.6	51.7
2001	30.4	241.0	105.7	51.8
2002	31.3	244.0	105.7	51.9
2003	32.0	247.0	105.8	52.0
2004	32.8	250.0	105.9	52.1
2005	33.8	253.0	106.0	52.2
2006	34.6	256.0	106.1	52.3
2007	35.3	259.0	106.2	52.4

* Source: BTS, Form's 298-C and 41

TABLE 19

UNITED STATES REGIONALS/COMMUTERS

SCHEDULED PASSENGER TRAFFIC

(In Millions)

FISCAL YEAR	REVENUE PASSENGER ENPLANEMENTS			REVENUE PASSENGER MILES		
	48 STATES	HAWAII/ PUERTO RICO/ VIRGIN ISLANDS	TOTAL	48 STATES	HAWAII/ PUERTO RICO/ VIRGIN ISLANDS	TOTAL
Historical*						
1990	35.5	1.7	37.2	6,513.1	140.7	6,653.8
1991	37.0	1.7	38.7	6,870.1	139.4	7,009.5
1992	41.1	1.6	42.7	8,091.7	137.2	8,228.9
1993	45.1	1.6	46.7	9,208.5	141.7	9,350.2
1994	51.5	1.7	53.2	10,948.0	153.2	11,101.2
1995E	51.7	2.0	53.7	11,199.3	208.4	11,407.7
Forecast						
1996	54.0	2.1	56.1	11,934.0	220.9	12,154.9
1997	57.6	2.1	59.7	13,017.6	221.3	13,238.9
1998	61.1	2.2	63.3	14,053.0	231.9	14,284.9
1999	64.7	2.2	66.9	15,139.8	232.1	15,371.9
2000	68.4	2.2	70.6	16,279.2	232.3	16,511.5
2001	72.1	2.2	74.3	17,376.1	232.5	17,608.6
2002	75.7	2.3	78.0	18,470.8	243.1	18,713.9
2003	79.5	2.3	81.8	19,636.5	243.4	19,879.9
2004	83.3	2.3	85.6	20,825.0	243.6	21,068.6
2005	87.0	2.4	89.4	22,011.0	254.0	22,265.0
2006	90.8	2.4	93.2	23,244.8	254.4	23,499.2
2007	94.5	2.4	96.9	24,475.5	254.9	24,730.4

* Source: BTS, Form's 298-C and 41

TABLE 20

UNITED STATES REGIONALS/COMMUTERS

PASSENGER AIRCRAFT AND FLIGHT HOURS

AS OF JANUARY 1	REGIONAL/COMMUTER AIRCRAFT					FLIGHT HOURS (000)
	LESS THAN 15 SEATS	15 TO 19 SEATS	20 TO 40 SEATS	MORE THAN 40 SEATS	TOTAL	
Historical						
1990	541	762	366	150	1,819	2,725
1991	535	762	445	154	1,896	2,720
1992	534	735	503	188	1,960	2,837
1993	530	752	585	187	2,054	2,935
1994	581	763	626	209	2,179	2,968
1995E	560	770	645	217	2,192	2,918
Forecast						
1996	526	744	702	260	2,232	2,959
1997	490	731	779	302	2,302	3,015
1998	465	724	842	350	2,381	3,066
1999	446	717	900	400	2,463	3,122
2000	430	710	952	453	2,545	3,178
2001	416	696	995	507	2,614	3,235
2002	402	689	1,038	562	2,691	3,290
2003	389	675	1,079	608	2,751	3,353
2004	375	655	1,122	652	2,804	3,413
2005	366	635	1,167	693	2,861	3,474
2006	355	623	1,212	734	2,924	3,537
2007	343	609	1257	771	2,980	3,601

Source: Fleet, FAA Aircraft Utilization and Propulsion Reliability Report
Flight Hours, BTS Form 298-C

TABLE 21

ACTIVE GENERAL AVIATION AND AIR TAXI AIRCRAFT

(In Thousands)

AS OF JANUARY 1	FIXED WING				ROTORCRAFT		EXPERI-MENTAL	OTHER	TOTAL
	PISTON								
	SINGLE ENGINE	MULTI-ENGINE	TURBOPROP	TURBO JET	PISTON	TURBINE			
Historical*									
1990	158.9	21.9	5.9	4.1	3.0	4.0	N.A.	7.2	205.0
1991	154.0	21.2	5.3	4.1	3.2	3.7	N.A.	6.6	198.0
1992	154.1	21.2	4.9	4.4	2.5	3.8	N.A.	7.6	198.5
1993	143.6	18.6	4.7	4.0	2.2	3.5	N.A.	7.8	184.4
1994	130.7	16.4	4.4	3.9	1.6	2.9	11.0	5.2	176.0
1995	123.3	15.6	4.2	4.1	1.4	3.0	12.9	6.2	170.6
Forecast									
1996	120.0	15.2	4.2	4.1	1.3	3.0	13.1	6.4	167.3
1997	117.8	14.9	4.3	4.2	1.3	3.0	13.3	6.6	165.4
1998	119.0	15.1	4.4	4.3	1.3	3.0	13.5	6.7	167.3
1999	120.1	15.2	4.4	4.3	1.2	3.0	13.7	6.8	168.7
2000	121.4	15.4	4.5	4.4	1.2	3.0	13.9	6.9	170.7
2001	122.6	15.5	4.6	4.5	1.2	3.0	14.1	7.0	172.5
2002	123.3	15.5	4.6	4.5	1.2	3.0	14.3	7.1	173.5
2003	123.9	15.6	4.7	4.6	1.1	3.0	14.5	7.3	174.7
2004	124.5	15.6	4.8	4.7	1.1	3.0	14.6	7.4	175.7
2005	125.1	15.7	4.9	4.7	1.1	3.0	14.8	7.5	176.8
2006	125.8	15.8	4.9	4.8	1.1	3.0	14.9	7.6	177.9
2007	126.4	15.8	5.0	4.9	1.1	3.0	15.0	7.7	178.9

* Source: FAA General Aviation and Air Taxi Activity (and Avionics) Surveys

Notes: An active aircraft is one that has a current registration and was flown at least one hour during the previous calendar year.
Experimental aircraft included in the survey for the first time in 1994.

TABLE 22

ACTIVE GENERAL AVIATION AND AIR TAXI AIRCRAFT

BY FAA REGION

(In Thousands)

AS OF JANUARY 1	FAA REGION									TOTAL AIRCRAFT
	NEW ENGLAND	EASTERN	SOUTHERN	GREAT LAKES	CENTRAL	SOUTHWEST	WESTERN PACIFIC	NORTHWEST MOUNTAIN	ALASKA	
Historical*										
1990	8.8	23.5	34.4	36.8	11.1	28.9	35.2	20.2	6.1	205.0
1991	8.1	23.1	32.9	34.8	11.0	26.4	34.9	20.3	6.5	198.0
1992	8.3	22.5	32.4	34.8	11.4	26.5	36.5	19.4	6.6	198.5
1993	7.3	21.7	30.8	32.9	10.3	24.9	31.4	19.2	6.1	184.4
1994	7.1	21.2	28.5	32.4	10.5	22.9	29.6	18.3	5.4	176.0
1995E	6.6	20.4	28.7	30.9	9.4	23.5	28.2	17.4	5.5	170.6
Forecast										
1996	6.4	20.0	28.4	30.0	9.0	23.3	27.7	17.1	5.4	167.3
1997	6.3	19.8	28.3	29.3	8.8	23.2	27.4	16.9	5.4	165.4
1998	6.4	19.9	28.9	29.3	8.9	23.6	27.7	17.1	5.5	167.3
1999	6.5	20.0	29.4	29.4	8.9	23.9	27.9	17.2	5.5	168.7
2000	6.6	20.1	30.2	29.5	8.9	24.3	28.2	17.4	5.5	170.7
2001	6.6	20.2	30.9	29.6	8.9	24.7	28.4	17.6	5.6	172.5
2002	6.7	20.3	31.2	29.6	9.0	24.9	28.5	17.7	5.6	173.5
2003	6.8	20.4	31.6	29.7	9.0	25.2	28.6	17.8	5.6	174.7
2004	6.8	20.5	32.0	29.8	9.0	25.5	28.7	17.8	5.6	175.7
2005	6.8	20.5	32.4	29.9	9.0	25.8	28.8	17.9	5.7	176.8
2006	6.9	20.6	32.7	30.0	9.1	26.0	28.9	18.0	5.7	177.9
2007	6.9	20.7	33.0	30.0	9.1	26.3	29.1	18.1	5.7	178.9

*Source: FAA Statistical Handbook of Aviation.

Notes: Commuters are included in the historical fleet data prior to 1994, excluded thereafter.

TABLE 23

ACTIVE GENERAL AVIATION AND AIR TAXI HOURS FLOWN

(In Millions)

CALENDAR YEAR	FIXED WING				ROTORCRAFT		EXPERI-MENTAL	OTHER	TOTAL
	PISTON								
	SINGLE ENGINE	MULTI-ENGINE	TURBOPROP	TURBOJET	PISTON	TURBINE			
Historical*									
1990	21.9	4.0	2.3	1.4	0.7	1.5	N.A.	0.3	32.1
1991	20.5	3.6	1.5	1.2	0.6	2.2	N.A.	0.5	30.1
1992	18.1	3.2	1.5	1.1	0.4	1.9	N.A	0.4	26.5
1993	16.5	2.5	1.2	1.2	0.4	1.5	0.7	0.4	24.3
1994	15.8	2.6	1.1	1.2	0.3	1.7	0.7	0.4	23.9
1995E	15.5	2.5	1.1	1.2	0.3	1.6	0.7	0.4	23.3
Forecast									
1996	15.3	2.5	1.1	1.3	0.3	1.6	0.7	0.4	23.2
1997	15.2	2.5	1.2	1.3	0.3	1.7	0.8	0.4	23.4
1998	15.3	2.6	1.2	1.4	0.3	1.7	0.8	0.4	23.7
1999	15.5	2.6	1.2	1.4	0.3	1.7	0.8	0.4	23.9
2000	15.7	2.6	1.2	1.4	0.3	1.7	0.8	0.4	24.1
2001	15.8	2.6	1.3	1.5	0.3	1.7	0.8	0.5	24.5
2002	15.9	2.7	1.3	1.5	0.3	1.8	0.8	0.5	24.8
2003	16.0	2.7	1.3	1.5	0.3	1.8	0.8	0.5	24.9
2004	16.0	2.7	1.3	1.6	0.3	1.8	0.8	0.5	25.0
2005	16.1	2.7	1.4	1.6	0.3	1.8	0.8	0.5	25.2
2006	16.2	2.7	1.4	1.6	0.3	1.8	0.9	0.5	25.4
2007	16.3	2.7	1.4	1.7	0.3	1.8	0.9	0.5	25.6

* Source: FAA General Aviation and Air Taxi Surveys

Notes: An active aircraft is one that has a current registration and was flown at least one hour during the previous calendar year.
Experimental aircraft included in the survey for the first time in 1994.

TABLE 24

ACTIVE PILOTS BY TYPE OF CERTIFICATE

(In Thousands)

AS OF JANUARY 1	STUDENTS	REC./1 LIGHTER-THAN-AIR2/	PRIVATE	COMMERCIAL	AIRLINE TRANSPORT	HELOCOPTER ONLY	GLIDER ONLY	TOTAL	INSTRUMENT RATED3/
Historical*									
1990	142.5	1.1	293.2	144.5	102.1	8.9	7.7	700.0	282.8
1991	128.7	0.1	299.1	149.7	107.7	9.6	7.8	702.7	297.1
1992	120.2	0.2	293.3	148.4	112.2	9.9	8.0	692.2	303.2
1993	114.6	0.2	288.1	146.4	115.9	9.7	8.2	683.1	306.2
1994	103.6	0.2	283.7	143.0	117.1	9.2	8.3	665.1	305.5
1995	96.3	0.2	284.2	138.7	117.4	8.7	8.5	654.0	302.3
Forecast									
1996	95.0	0.2	280.5	137.3	118.6	8.5	8.6	648.7	303.8
1997	94.6	0.3	278.4	135.9	120.4	8.5	8.7	646.8	306.8
1998	96.4	0.3	281.4	137.2	122.2	8.6	8.8	654.9	309.9
1999	98.2	0.3	284.5	138.6	124.3	8.7	8.8	663.4	313
2000	100.1	0.3	287.6	140.0	126.8	8.8	8.9	672.5	316.1
2001	101.9	0.4	290.5	140.7	129.3	8.8	8.9	680.5	319.3
2002	103.2	0.4	292.7	141.4	131.3	8.9	9.0	686.9	321.7
2003	104.7	0.4	294.8	142.1	133.2	9.0	9.0	693.2	324.1
2004	105.8	0.4	297.1	142.8	134.9	9.1	9.1	699.2	326.5
2005	106.6	0.5	299.0	143.6	136.6	9.1	9.1	704.5	329
2006	107.4	0.5	300.5	144.3	138.3	9.2	9.2	709.4	331.4
2007	108.2	0.5	302.0	145.0	139.7	9.3	9.2	713.9	333.9

* Source: FAA Statistical Handbook of Aviation.

1/ Recreational rating not available until 1991.

2/ Lighter-than-air type rating is no longer issued after 1990.

3/ Instrument rated pilots should not be added to other categories in deriving total.

Notes: An active pilot is a person with a pilot certificate and a valid medical certificate.

TABLE 25

GENERAL AVIATION AIRCRAFT FUEL CONSUMPTION

(In Millions of Gallons)

CALENDAR YEAR	FIXED WING				ROTORCRAFT		OTHER/ EXPERI-MENTAL	TOTAL FUEL CONSUMED
	PISTON							
	SINGLE ENGINE	MULTI-ENGINE	TURBOPROP	TURBOJET	PISTON	TURBINE		
Historical*								
1990	220.4	118.8	204.4	418.1	9.5	40.3	1.0	1,012.5
1991	230.8	110.3	133.3	351.1	7.7	92.4	4.8	930.4
1992	202.2	98.9	124.3	289.0	6.5	80.6	6.5	808.0
1993	178.7	74.7	99.9	310.6	5.6	43.5	9.4	722.4
1994	170.7	78.8	89.8	331.0	5.1	50.0	9.5	734.9
1995	167.5	75.8	89.8	331.0	5.1	48.5	9.7	727.4
Forecast								
1996	165.3	75.8	91.5	340.9	5.1	47.0	9.9	735.5
1997	164.1	75.8	93.4	351.2	5.1	47.5	10.1	747.2
1998	165.3	76.6	95.2	361.7	5.1	47.9	10.2	762.0
1999	167.4	77.3	97.2	372.5	5.1	48.4	10.4	778.3
2000	169.6	78.1	99.1	383.7	5.1	48.9	10.6	795.1
2001	170.4	78.9	101.1	395.2	5.1	49.4	10.8	810.9
2002	171.3	79.4	103.2	405.9	5.1	49.9	11.0	825.8
2003	172.2	79.8	105.2	416.8	5.1	50.4	11.3	840.8
2004	173.0	80.3	107.3	428.1	5.1	50.9	11.5	856.2
2005	173.9	80.8	109.5	439.6	5.1	51.4	11.7	872.0
2006	174.7	81.3	111.7	451.5	5.1	51.9	11.9	888.1
2007	175.6	81.7	113.7	463.7	5.1	52.4	12.1	904.3

Source: FAA APO Estimates

* Adjusted to reflect nonrespondent sampling error.

Notes: Detail may not add to total because of independent rounding.

TABLE 26

ACTIVE ROTORCRAFT FLEET AND HOURS FLOWN

AS OF JANUARY 1	ACTIVE FLEET (Thousands)			CALENDAR YEAR	HOURS FLOWN (Millions)		
	PISTON	TURBINE	TOTAL		PISTON	TURBINE	TOTAL
Historical*				Historical*			
1990	3.0	4.0	7.0	1990	0.7	1.5	2.2
1991	3.2	3.7	6.9	1991	0.6	2.2	2.8
1992	2.5	3.8	6.3	1992	0.4	1.9	2.3
1993	2.2	3.5	5.7	1993	0.4	1.5	1.9
1994	1.6	2.9	4.5	1994	0.3	1.7	2.0
1995	1.4	3.0	4.4	1995E	0.3	1.6	1.9
Forecast				Forecast			
1996	1.3	3.0	4.3	1996	0.3	1.6	1.9
1997	1.3	3.0	4.3	1997	0.3	1.7	2.0
1998	1.3	3.0	4.3	1998	0.3	1.7	2.0
1999	1.2	3.0	4.2	1999	0.3	1.7	2.0
2000	1.2	3.0	4.2	2000	0.3	1.7	2.0
2001	1.2	3.0	4.2	2001	0.3	1.7	2.0
2002	1.2	3.0	4.2	2002	0.3	1.8	2.1
2003	1.1	3.0	4.1	2003	0.3	1.8	2.1
2004	1.1	3.0	4.1	2004	0.3	1.8	2.1
2005	1.1	3.0	4.1	2005	0.3	1.8	2.1
2006	1.1	3.0	4.1	2006	0.3	1.8	2.1
2007	1.1	3.0	4.1	2007	0.3	1.8	2.1

* Source: FAA General Aviation and Air Taxi Activity (and Avionics) Surveys
(1) Hours flown data is for the entire calendar year.

TABLE 27

TOTAL COMBINED AIRCRAFT OPERATIONS AT AIRPORTS WITH FAA AND CONTRACT TRAFFIC CONTROL SERVICE

(In Millions)

FISCAL YEAR	AIR CARRIER	AIR TAXI/ COMMUTER	GENERAL AVIATION	MILITARY	TOTAL	NUMBER OF TOWERS**	
						FAA	CONTRACT
Historical*							
1990	12.9	8.9	40.2	2.9	64.9	403	24
1991	12.5	9.0	38.8	2.5	62.8	399	26
1992	12.4	9.5	38.4	2.9	63.2	401	27
1993	12.6	9.9	36.7	2.7	61.9	401	27
1994	13.2	10.2	36.3	2.6	62.3	402	32
1995E	13.7	10.2	36.0	2.6	62.5	352	94
Forecast							
1996	14.0	10.4	36.2	2.6	63.2	325	118
1997	14.6	10.7	36.6	2.6	64.5	325	118
1998	15.2	10.9	37.0	2.6	65.7	325	118
1999	15.5	11.2	37.4	2.6	66.7	325	118
2000	15.9	11.4	37.7	2.6	67.6	325	118
2001	16.3	11.7	38.0	2.6	68.6	325	118
2002	16.7	12.0	38.3	2.6	69.6	325	118
2003	17.1	12.3	38.7	2.6	70.7	325	118
2004	17.4	12.6	39.0	2.6	71.6	325	118
2005	17.8	12.9	39.2	2.6	72.5	325	118
2006	18.2	13.2	39.5	2.6	73.5	325	118
2007	18.6	13.5	39.8	2.6	74.5	325	118

* Source: FAA Air Traffic Activity.

** Total number at end of the fiscal year (September 30)

TABLE 28

COMBINED ITINERANT AIRCRAFT OPERATIONS AT AIRPORTS WITH FAA AND CONTRACT TRAFFIC CONTROL SERVICE

(In Millions)

FISCAL YEAR	AIR CARRIER	AIR TAXI/ COMMUTER	GENERAL AVIATION	MILITARY	TOTAL
Historical*					
1990	12.9	8.9	23.1	1.4	46.3
1991	12.5	9.0	22.2	1.3	45.0
1992	12.4	9.5	22.1	1.5	45.5
1993	12.6	9.9	21.2	1.4	45.1
1994	13.2	10.2	21.1	1.3	45.8
1995E	13.7	10.2	20.9	1.3	46.1
Forecast					
1996	14.0	10.4	21.0	1.3	46.7
1997	14.6	10.7	21.2	1.3	47.8
1998	15.2	10.9	21.5	1.3	48.9
1999	15.5	11.2	21.7	1.3	49.7
2000	15.9	11.4	21.9	1.3	50.5
2001	16.3	11.7	22.1	1.3	51.4
2002	16.7	12.0	22.3	1.3	52.3
2003	17.1	12.3	22.5	1.3	53.2
2004	17.4	12.6	22.7	1.3	54.0
2005	17.8	12.9	22.9	1.3	54.9
2006	18.2	13.2	23.0	1.3	55.7
2007	18.6	13.5	23.2	1.3	56.6

* Source: FAA Air Traffic Activity.

TABLE 29

COMBINED LOCAL AIRCRAFT OPERATIONS AT AIRPORTS WITH FAA AND CONTRACT TRAFFIC CONTROL SERVICE

(In Millions)

FISCAL YEAR	GENERAL AVIATION	MILITARY	TOTAL
Historical*			
1990	17.1	1.5	18.6
1991	16.6	1.2	17.8
1992	16.3	1.4	17.7
1993	15.5	1.3	16.8
1994	15.2	1.3	16.5
1995E	15.1	1.3	16.4
Forecast			
1996	15.2	1.3	16.5
1997	15.4	1.3	16.7
1998	15.5	1.3	16.8
1999	15.7	1.3	17.0
2000	15.8	1.3	17.1
2001	15.9	1.3	17.2
2002	16.0	1.3	17.3
2003	16.2	1.3	17.5
2004	16.3	1.3	17.6
2005	16.3	1.3	17.6
2006	16.5	1.3	17.8
2007	16.6	1.3	17.9

* Source: FAA Air Traffic Activity.

TABLE 30

TOTAL AIRCRAFT OPERATIONS

AT AIRPORTS WITH FAA TRAFFIC CONTROL SERVICE

(In Millions)

FISCAL YEAR	AIR CARRIER	AIR TAXI/ COMMUTER	GENERAL AVIATION	MILITARY	TOTAL
Historical*					
1990	12.9	8.8	39.0	2.8	63.5
1991	12.5	8.9	37.5	2.5	61.4
1992	12.4	9.3	37.0	2.8	61.5
1993	12.6	9.7	35.3	2.6	60.2
1994	13.2	10.0	34.7	2.5	60.4
1995E	13.6	9.8	32.3	2.3	58.0
Forecast					
1996	13.9	9.6	30.4	2.2	56.1
1997	14.5	9.7	29.9	2.1	56.2
1998	15.1	9.9	30.2	2.1	57.3
1999	15.4	10.2	30.5	2.1	58.2
2000	15.8	10.4	30.8	2.1	59.1
2001	16.2	10.7	31.1	2.1	60.1
2002	16.6	10.9	31.3	2.1	60.9
2003	17.0	11.2	31.6	2.1	61.9
2004	17.3	11.5	31.9	2.1	62.8
2005	17.7	11.8	32.0	2.1	63.6
2006	18.1	12.1	32.2	2.1	64.5
2007	18.5	12.4	32.5	2.1	65.5

* Source: FAA Air Traffic Activity.

TABLE 31

ITINERANT AIRCRAFT OPERATIONS

AT AIRPORTS WITH FAA TRAFFIC CONTROL SERVICE

(In Millions)

FISCAL YEAR	AIR CARRIER	AIR TAXI/ COMMUTER	GENERAL AVIATION	MILITARY	TOTAL
Historical*					
1990	12.9	8.8	22.4	1.4	45.5
1991	12.5	8.9	21.5	1.3	44.2
1992	12.4	9.3	21.3	1.5	44.5
1993	12.6	9.7	20.4	1.4	44.1
1994	13.2	10.0	20.2	1.3	44.7
1995E	13.6	9.8	18.9	1.2	43.5
Forecast					
1996	13.9	9.6	17.9	1.1	42.5
1997	14.5	9.7	17.6	1.1	42.9
1998	15.1	9.9	17.8	1.1	43.9
1999	15.4	10.2	18.0	1.1	44.7
2000	15.8	10.4	18.2	1.1	45.5
2001	16.2	10.7	18.4	1.1	46.4
2002	16.6	10.9	18.5	1.1	47.1
2003	17.0	11.2	18.7	1.1	48.0
2004	17.3	11.5	18.9	1.1	48.8
2005	17.7	11.8	19.0	1.1	49.6
2006	18.1	12.1	19.1	1.1	50.4
2007	18.5	12.4	19.3	1.1	51.3

* Source: FAA Air Traffic Activity.

TABLE 32

LOCAL AIRCRAFT OPERATIONS

AT AIRPORTS WITH FAA TRAFFIC CONTROL SERVICE

(In Millions)

FISCAL YEAR	GENERAL AVIATION	MILITARY	TOTAL
Historical*			
1990	16.6	1.4	18.0
1991	16.0	1.2	17.2
1992	15.7	1.3	17.0
1993	14.9	1.2	16.1
1994	14.5	1.2	15.7
1995	13.4	1.1	14.5
Forecast			
1996	12.5	1.1	13.6
1997	12.3	1.0	13.3
1998	12.4	1.0	13.4
1999	12.5	1.0	13.5
2000	12.6	1.0	13.6
2001	12.7	1.0	13.7
2002	12.8	1.0	13.8
2003	12.9	1.0	13.9
2004	13.0	1.0	14.0
2005	13.0	1.0	14.0
2006	13.1	1.0	14.1
2007	13.2	1.0	14.2

* Source: FAA Air Traffic Activity.

TABLE 33

TOTAL AIRCRAFT OPERATIONS

AT AIRPORTS WITH CONTRACT TRAFFIC CONTROL SERVICE

(In Thousands)

FISCAL YEAR	AIR CARRIER	AIR TAXI/ COMMUTER	GENERAL AVIATION	MILITARY	TOTAL
Historical*					
1990	7.3	120.5	1,279.6	87.1	1,494.5
1991	6.1	143.3	1,332.6	78.4	1,560.4
1992	9.0	154.7	1,409.4	93.9	1,667.0
1993	13.7	155.9	1,373.2	105.2	1,648.0
1994	13.5	167.1	1,561.2	142.7	1,884.5
1995E	58.5	404.4	3,648.2	315.5	4,426.6
Forecast					
1996	106.0	835.0	5,811.0	426.0	7,178.0
1997	114.0	969.0	6,732.0	460.0	8,275.0
1998	116.0	986.0	6,789.0	460.0	8,351.0
1999	118.0	1,002.0	6,846.0	460.0	8,426.0
2000	120.0	1,019.0	6,903.0	460.0	8,502.0
2001	122.0	1,037.0	6,961.0	460.0	8,580.0
2002	124.0	1,054.0	7,019.0	460.0	8,657.0
2003	126.0	1,072.0	7,078.0	460.0	8,736.0
2004	128.0	1,091.0	7,138.0	460.0	8,817.0
2005	130.0	1,109.0	7,198.0	460.0	8,897.0
2006	132.0	1,128.0	7,257.0	460.0	8,977.0
2007	135.0	1,147.0	7,319.0	460.0	9,061.0

* Source: FAA Air Traffic Activity.

** Total for 352 towered airports.

Notes: Detail may not add to total because of rounding.

TABLE 34

ITINERANT AIRCRAFT OPERATIONS

AT AIRPORTS WITH CONTRACT TRAFFIC CONTROL SERVICE

(In Thousands)

FISCAL YEAR	AIR CARRIER	AIR TAXI/ COMMUTER	GENERAL AVIATION	MILITARY	TOTAL
Historical*					
1990	7.3	120.5	748.0	31.3	907.1
1991	6.1	143.3	747.3	32.9	929.6
1992	9.0	154.7	767.1	38.6	969.4
1993	13.7	155.9	759.9	43.4	972.9
1994	13.5	167.1	854.8	49.6	1,085.0
1995E	58.5	404.4	1,964.0	140.1	2,567.0
Forecast					
1996	106.0	835.0	3,129.0	196.0	4,266.0
1997	114.0	969.0	3,642.0	210.0	4,935.0
1998	116.0	986.0	3,668.0	210.0	4,980.0
1999	118.0	1,002.0	3,694.0	210.0	5,024.0
2000	120.0	1,019.0	3,719.0	210.0	5,068.0
2001	122.0	1,037.0	3,746.0	210.0	5,115.0
2002	124.0	1,054.0	3,772.0	210.0	5,160.0
2003	126.0	1,072.0	3,798.0	210.0	5,206.0
2004	128.0	1,091.0	3,825.0	210.0	5,254.0
2005	130.0	1,109.0	3,852.0	210.0	5,301.0
2006	132.0	1,128.0	3,878.0	210.0	5,348.0
2007	135.0	1,147.0	3,906.0	210.0	5,398.0

* Source: FAA Air Traffic Activity.

TABLE 35

LOCAL AIRCRAFT OPERATIONS

AT AIRPORTS WITH CONTRACT TRAFFIC CONTROL SERVICE

(In Thousands)

FISCAL YEAR	GENERAL AVIATION	MILITARY	TOTAL
Historical*			
1990	531.6	55.8	587.4
1991	585.3	45.5	630.8
1992	642.3	55.3	697.6
1993	613.3	61.8	675.1
1994	706.4	93.1	799.5
1995	1,684.2	175.4	1,859.6
Forecast			
1996	2,682.0	230.0	2,912.0
1997	3,090.0	250.0	3,340.0
1998	3,121.0	250.0	3,371.0
1999	3,152.0	250.0	3,402.0
2000	3,184.0	250.0	3,434.0
2001	3,215.0	250.0	3,465.0
2002	3,247.0	250.0	3,497.0
2003	3,280.0	250.0	3,530.0
2004	3,313.0	250.0	3,563.0
2005	3,346.0	250.0	3,596.0
2006	3,379.0	250.0	3,629.0
2007	3,413.0	250.0	3,663.0

* Source: FAA Air Traffic Activity.

TABLE 36

TOTAL COMBINED INSTRUMENT OPERATIONS

AT AIRPORTS WITH FAA AND CONTRACT TRAFFIC CONTROL SERVICE *1/*

(In Millions)

FISCAL YEAR	AIR CARRIER	AIR TAXI/ COMMUTER	GENERAL AVIATION	MILITARY	TOTAL	
					IFR	NON-IFR**
Historical*						
1990	14.0	9.5	19.2	4.4	47.1	10.0
1991	13.5	9.6	18.2	4.0	45.3	9.5
1992	13.4	10.0	18.3	4.1	45.8	9.2
1993	13.6	10.5	17.8	3.9	45.8	9.1
1994	14.3	10.9	18.1	3.7	47.0	9.2
1995E	14.7	10.9	18.1	3.6	47.3	9.0
Forecast						
1996	15.1	11.1	18.3	3.6	48.1	9.1
1997	15.7	11.3	18.5	3.6	49.1	9.2
1998	16.3	11.6	18.7	3.6	50.2	9.2
1999	16.7	11.9	18.9	3.6	51.1	9.2
2000	17.1	12.2	19.1	3.6	52.0	9.2
2001	17.5	12.5	19.2	3.6	52.8	9.2
2002	17.9	12.8	19.4	3.6	53.7	9.2
2003	18.4	13.1	19.6	3.6	54.7	9.2
2004	18.8	13.4	19.7	3.6	55.5	9.2
2005	19.2	13.7	19.9	3.6	56.4	9.2
2006	19.6	14.1	20.0	3.6	57.3	9.2
2007	20.0	14.4	20.2	3.6	58.2	9.2

1/ Totals of FAA and contract tower instrument operations are nonadditive

* Source: FAA Air Traffic Activity.

** See Table 39 for detail.

TABLE 37

INSTRUMENT OPERATIONS

AT AIRPORTS WITH FAA TRAFFIC CONTROL SERVICE

(In Millions)

FISCAL YEAR	AIR CARRIER	AIR TAXI/ COMMUTER	GENERAL AVIATION	MILITARY	TOTAL
Historical*					
1990	14.0	9.4	19.1	4.4	46.9
1991	13.5	9.5	18.1	4.0	45.1
1992	13.4	9.9	18.2	4.1	45.6
1993	13.6	10.4	17.7	3.9	45.6
1994	14.3	10.8	18.0	3.7	46.8
1995	14.7	10.8	18.0	3.5	47.0
Forecast					
1996	15.0	10.8	18.2	3.5	47.5
1997	15.6	11.0	18.2	3.5	48.3
1998	16.2	11.2	18.4	3.5	49.3
1999	16.6	11.5	18.6	3.5	50.2
2000	17.0	11.9	18.8	3.5	51.2
2001	17.5	12.1	19.0	3.5	52.1
2002	17.9	12.4	19.2	3.5	53.0
2003	18.3	12.7	19.3	3.5	53.8
2004	18.7	13.0	19.5	3.5	54.7
2005	19.1	13.4	19.7	3.5	55.7
2006	19.5	13.7	19.8	3.5	56.5
2007	19.9	14.0	19.9	3.5	57.3

* Source: FAA Air Traffic Activity.

TABLE 38

INSTRUMENT OPERATIONS

AT AIRPORTS WITH CONTRACT TRAFFIC CONTROL SERVICE

(In Thousands)

FISCAL YEAR	AIR CARRIER	AIR TAXI/ COMMUTER	GENERAL AVIATION	MILITARY	TOTAL
Historical*					
1990	5.7	82.3	149.1	22.8	259.9
1991	4.4	83.4	149.4	26.5	263.7
1992	8.0	92.7	162.3	24.6	287.6
1993	12.9	89.4	161.5	27.0	290.8
1994	12.3	94.2	183.0	25.5	315.0
1995E	56.3	272.7	460.0	73.0	862.0
Forecast					
1996	104.0	517.0	744.0	99.0	1,464.0
1997	111.0	595.0	865.0	106.0	1,677.0
1998	113.0	605.0	871.0	106.0	1,695.0
1999	114.0	615.0	877.0	106.0	1,712.0
2000	116.0	626.0	883.0	106.0	1,731.0
2001	118.0	636.0	889.0	106.0	1,749.0
2002	120.0	647.0	896.0	106.0	1,769.0
2003	122.0	658.0	902.0	106.0	1,788.0
2004	125.0	669.0	908.0	106.0	1,808.0
2005	127.0	681.0	915.0	106.0	1,829.0
2006	129.0	692.0	921.0	106.0	1,848.0
2007	131.0	704.0	927.0	106.0	1,868.0

* Source: FAA Air Traffic Activity.

TABLE 39

NON-IFR INSTRUMENT OPERATIONS

(In Millions)

FISCAL YEAR	TERMINAL CONTROL AREAS	AIRPORT RADAR SERVICE AREAS	TOTAL
Historical*			
1990	1.9	8.1	10.0
1991	2.5	7.0	9.5
1992	2.3	6.9	9.2
1993	2.2	6.9	9.1
1994	2.2	7.0	9.2
1995E	2.2	6.8	9.0
Forecast			
1996	2.2	6.9	9.1
1997	2.2	7.0	9.2
1998	2.2	7.0	9.2
1999	2.2	7.0	9.2
2000	2.2	7.0	9.2
2001	2.2	7.0	9.2
2002	2.2	7.0	9.2
2003	2.2	7.0	9.2
2004	2.2	7.0	9.2
2005	2.2	7.0	9.2
2006	2.2	7.0	9.2
2007	2.2	7.0	9.2

* Source: FAA

TABLE 40

IFR AIRCRAFT HANDLED

AT FAA AIR ROUTE TRAFFIC CONTROL CENTERS

(In Millions)

FISCAL YEAR	IFR AIRCRAFT HANDLED				
	AIR CARRIER	AIR TAXI/ COMMUTER	GENERAL AVIATION	MILITARY	TOTAL
Historical*					
1990	18.5	5.6	7.9	5.4	37.4
1991	18.2	5.5	7.4	5.1	36.2
1992	18.5	5.8	7.5	5.4	37.2
1993	19.0	6.3	7.5	4.8	37.6
1994	20.0	6.6	7.7	4.6	38.9
1995E	21.0	7.0	7.8	4.4	40.2
Forecast					
1996	21.6	7.1	8.0	4.4	41.1
1997	22.4	7.3	8.1	4.4	42.2
1998	23.2	7.5	8.3	4.4	43.4
1999	23.7	7.8	8.5	4.4	44.4
2000	24.2	8.0	8.7	4.4	45.3
2001	24.9	8.2	8.8	4.4	46.3
2002	25.4	8.3	9.0	4.4	47.1
2003	25.9	8.5	9.0	4.4	47.8
2004	26.4	8.7	9.2	4.4	48.7
2005	26.9	8.8	9.2	4.4	49.3
2006	27.4	9.0	9.4	4.4	50.2
2007	27.9	9.2	9.4	4.4	50.9

* Source: FAA Air Traffic Activity.

Notes: Detail may not add to total because of rounding.

TABLE 41

IFR DEPARTURES AND OVERS

AT FAA AIR ROUTE TRAFFIC CONTROL CENTERS

(In Millions)

FISCAL YEAR	AIR CARRIER		AIR TAXI/COMMUTER		GENERAL AVIATION		MILITARY		TOTAL	
	IFR DEPARTURES	OVERS	IFR DEPARTURES	OVERS	IFR DEPARTURES	OVERS	IFR DEPARTURES	OVERS	IFR DEPARTURES	OVERS
Historical*										
1990	6.3	5.9	2.6	0.4	3.3	1.3	1.8	1.8	14.0	9.4
1991	6.2	5.8	2.6	0.3	3.1	1.2	1.7	1.7	13.6	9.0
1992	6.3	5.9	2.7	0.4	3.1	1.3	1.8	1.8	13.9	9.4
1993	6.3	6.4	2.9	0.5	3.1	1.3	1.7	1.4	14.0	9.6
1994	6.7	6.6	3.0	0.6	3.2	1.3	1.6	1.4	14.5	9.9
1995E	7.0	7.0	3.2	0.6	3.2	1.4	1.5	1.4	14.9	10.4
Forecast										
1996	7.2	7.2	3.2	0.7	3.3	1.4	1.5	1.4	15.2	10.7
1997	7.5	7.4	3.3	0.7	3.3	1.5	1.5	1.4	15.6	11.0
1998	7.8	7.6	3.4	0.7	3.4	1.5	1.5	1.4	16.1	11.2
1999	8.0	7.7	3.5	0.8	3.5	1.5	1.5	1.4	16.5	11.4
2000	8.2	7.8	3.6	0.8	3.6	1.5	1.5	1.4	16.9	11.5
2001	8.5	7.9	3.7	0.8	3.6	1.6	1.5	1.4	17.3	11.7
2002	8.7	8.0	3.7	0.9	3.7	1.6	1.5	1.4	17.6	11.9
2003	8.9	8.1	3.8	0.9	3.7	1.6	1.5	1.4	17.9	12.0
2004	9.1	8.2	3.9	0.9	3.8	1.6	1.5	1.4	18.3	12.1
2005	9.3	8.3	3.9	1.0	3.8	1.6	1.5	1.4	18.5	12.3
2006	9.5	8.4	4.0	1.0	3.9	1.6	1.5	1.4	18.9	12.4
2007	9.7	8.5	4.1	1.0	3.9	1.6	1.5	1.4	19.2	12.5

* Source: FAA Air Traffic Activity.

Note: Totals may not add because of rounding.

TABLE 42

TOTAL FLIGHT PLANS

AT FAA FLIGHT SERVICE STATIONS

(In Millions)

FISCAL YEAR	FLIGHT PLANS ORIGINATED	PILOT BRIEFS	AIRCRAFT CONTACTED	TOTAL FLIGHT SERVICES	FLIGHT SERVICES INCLUDING DUATS
Historical*					
1990	7.3	11.8	6.3	44.5	47.5
1991	6.6	11.0	5.8	41.0	47.4
1992	6.4	10.7	5.5	39.7	48.5
1993	6.2	10.0	4.9	37.3	49.5
1994	6.3	9.6	4.7	36.5	52.5
1995E	6.3	8.9	4.2	34.6	46.0
Forecast					
1996	6.2	8.7	4.0	33.8	46.0
1997	6.1	8.5	3.9	33.1	46.1
1998	6.0	8.5	3.9	32.9	46.7
1999	6.0	8.4	3.9	32.7	47.1
2000	5.9	8.4	3.9	32.5	47.5
2001	5.9	8.3	3.8	32.2	47.8
2002	5.8	8.3	3.8	32.0	48.2
2003	5.8	8.2	3.7	31.7	48.5
2004	5.8	8.2	3.7	31.7	48.9
2005	5.7	8.2	3.7	31.5	49.3
2006	5.7	8.1	3.7	31.3	49.5
2007	5.7	8.0	3.7	31.1	49.9

* Source: FAA Air Traffic Activity.

Notes: Total flight services is equal to the sum of flight plans originated and pilot briefs, multiplied by two, plus the number of aircraft contacted.

TABLE 43

FLIGHT PLANS ORIGINATED

AT FAA FLIGHT SERVICE STATIONS

(In Millions)

FISCAL YEAR	FLIGHT PLANS ORIGINATED		
	IFR-DVFR	VFR	TOTAL
Historical*			
1990	5.5	1.8	7.3
1991	4.9	1.7	6.6
1992	4.8	1.6	6.4
1993	4.7	1.5	6.2
1994	4.8	1.5	6.3
1995E	4.8	1.4	6.2
Forecast			
1996	4.8	1.4	6.2
1997	4.7	1.4	6.1
1998	4.7	1.3	6.0
1999	4.7	1.3	6.0
2000	4.6	1.3	5.9
2001	4.6	1.3	5.9
2002	4.6	1.2	5.8
2003	4.6	1.2	5.8
2004	4.6	1.2	5.8
2005	4.5	1.2	5.7
2006	4.5	1.2	5.7
2007	4.5	1.2	5.7

* Source: FAA Air Traffic Activity.
Notes: Detail may not add to total because of rounding.

TABLE 44

AIRCRAFT CONTACTED

AT FAA FLIGHT SERVICE STATIONS

(In Millions)

FISCAL YEAR	USER CATEGORY				FLIGHT RULES		
	AIR CARRIER	AIR TAXI/ COMMUTER	GENERAL AVIATION	MILITARY	IFR-DVFR	VFR	TOTAL
Historical*							
1990	0.3	0.8	4.8	0.4	1.8	4.5	6.3
1991	0.2	0.8	4.4	0.4	1.7	4.1	5.8
1992	0.2	0.8	4.1	0.4	1.7	3.8	5.5
1993	0.2	0.7	3.7	0.3	1.5	3.4	4.9
1994	0.2	0.7	3.5	0.2	1.4	3.3	4.7
1995E	0.1	0.6	3.3	0.2	1.3	2.9	4.2
Forecast							
1996	0.1	0.5	3.2	0.2	1.2	3.1	4.0
1997	0.1	0.5	3.1	0.2	1.1	3.1	3.9
1998	0.1	0.5	3.1	0.2	1.1	3.1	3.9
1999	0.1	0.5	3.1	0.2	1.1	2.8	3.9
2000	0.1	0.4	3.1	0.2	1.0	2.8	3.8
2001	0.1	0.4	3.1	0.2	1.0	2.8	3.8
2002	0.1	0.4	3.1	0.2	1.0	2.8	3.8
2003	0.1	0.4	3.0	0.2	0.9	2.8	3.7
2004	0.1	0.4	3.0	0.2	0.9	2.8	3.7
2005	0.1	0.4	3.0	0.2	0.9	2.8	3.7
2006	0.1	0.4	3.0	0.2	0.9	2.8	3.7
2007	0.1	0.4	3.0	0.2	0.9	2.8	3.7

* Source: FAA Air Traffic Activity.
Notes: Detail may not add to total because of rounding.

TABLE 45

AUTOMATED FLIGHT SERVICES

DUATS TRANSACTIONS

(In Millions)

FISCAL YEAR	DUATS FLIGHT PLANS	DUATS TRANSACTIONS	TOTAL DUATS
Historical*			
1990	0.2	1.3	3.0
1991	0.5	2.7	6.4
1992	0.6	3.8	8.8
1993	0.7	5.4	12.2
1994	0.7	7.3	16.0
1995E	0.8	4.9	11.4
Forecast			
1996	0.9	5.2	12.2
1997	1.0	5.5	13.0
1998	1.2	5.7	13.8
1999	1.3	5.9	14.4
2000	1.4	6.1	15.0
2001	1.5	6.3	15.6
2002	1.6	6.5	16.2
2003	1.7	6.7	16.8
2004	1.8	6.8	17.2
2005	1.9	7.0	17.8
2006	2.0	7.1	18.2
2007	2.1	7.3	18.8

* Source: FAA Air Traffic Activity. DUATS began in 1990

Notes: Total DUATS services are equal to the sum of flight plans originated and transactions multiplied by two.